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ORIGINAL ESSAYS.

REFLECTIONS *on* FEVER, *and particularly on the Inflammatory Character of* FEVER, *by* LYMAN SPALDING, M. D.

(Continued from Page 113.)

HAVING assigned the seat and proximate cause to the several symptoms in the inflammatory character of fever; our next business will be to endeavour to ascertain the seat of the disease itself.

We shall now examine the several symptoms in the order of effect to cause, and see if we can find any one symptom, which can cause all the others; if so, whatever is the seat of this symptom, must, evidently, be the seat of the disease. In this investigation we shall commence with the last suit of symptoms in the disease, and attempt to trace up the several symptoms from effect to cause; and endeavour to generalize the seats and proximate causes of the several symptoms in each suit.

THIRD SUIT of symptoms in the SECOND STAGE.

[1] *If the febrile symptoms run very high, and proper means are not used at an early period, stupor and delirium come on at a more advanced stage*; [2] *the imagination becomes much disturbed and hurried,* [3] *and the patient raves violently.*

This suit consists of three distinct symptoms, which we have traced to their seat, the brain; and shown the proximate cause of each to be morbidly increased action of the heart and arteries.

We will, now, refer to the next preceding suit of symptoms, and trace this morbidly increased action of the heart and arteries to its source.

SECOND SUIT of symptoms in the SECOND STAGE.

[1] *The skin is dry,* [2] *and parched;* [3] *the eyes appear inflamed,* [4] *and are incapable of bearing the light;* [5] *the tongue is of a scarlet colour at the sides, and furred, and white in the centre;* [6] *the urine is red and scanty.* [7] *the body is costive,* [8] *and there is a quickness, with a fulness and hardness in the pulse, not much affected by any pressure made on the artery.* [9] *Its pulsations are from* 90 *to* 130 *in a minute,* [10] *and when blood is drawn, it exhibits a yellowish or buffy crust on its surface.*

This suit consists of ten symptoms; eight of which have their seat in the circulating system, and their proximate cause is morbidly increased action of the heart and arteries. The other two are local symptoms, and have other seats; the proximate cause of the one is, probably, morbidly increased action of the heart and arteries; of the other, their morbidly diminished action, which previously existed in the system.

The first suit of symptoms in the second stage, will next engage our attention, while we keep in view this morbidly increased action of the heart and arteries, which appears to be the overruling state of the system in the third and second suits of symptoms.

[1] *Which symptoms are shortly followed by redness of the face,* [2] *throbbing of the temples,* [3] *great restlessness,* [4] *intense heat,* [5] *and unquenchable thirst,* [6] *oppression of breathing,* [7] *and nausea.*

This suit consists of seven distinct symptoms; of which, four are seated in the circulating system, and their proximate cause is morbidly increased action of the heart and arteries. The other three are local symptoms, and have other seats; but the proximate cause of two of them is referrable, directly, to the morbidly increased action of the heart and arteries; and the third, indirectly, to the same source.

The morbidly increased action of the heart and arteries, then, is the overruling state of the system in the third, second, and first suits of symptoms, which constitute the second stage in the inflammatory character of fever.

We will now examine the second suit of symptoms in the first stage, with a view to ascertain the cause of this morbidly increased action of the heart and arteries, which appears to be the overruling state of the system in the second stage of the inflammatory character of fever.

[1] *Succeeded by vertigo*, [2] *rigors*, [3] *and pains over the whole body, but more particularly in the head and back.*

This suit consists of three distinct symptoms; the first is seated in the brain, and the second and third, in the muscular structure. The proximate cause of the first is referrable to a morbidly diminished action of the heart and arteries; of the second and third, to a very great diminution of the life of the muscular structure.

The symptoms of this suit are directly opposed to all those of the second stage. There, the overruling state of the system was the morbidly increased action of the heart and arteries; here, it is the morbidly diminished action of the same organs.

At first view, it would appear, that we had completely lost sight of our grand overruling state of the system, the morbidly increased action of the heart and arteries; but, such are the laws of the animal economy, that after the morbidly diminished action of the heart and arteries has continued for a time, the system reacts upon itself, and produces a morbidly increased action of that heart and arteries, which were, just before, labouring under a morbidly diminished action.

This law of the animal economy is acknowledged by all our best writers on medicine. It is called re-action. We shall examine it particularly hereafter.

The overruling state of the system in the second stage, then, is the effect of the morbidly diminished action of the heart and arteries in the second suit of symptoms of the first stage.

The first suit of symptoms in the first stage will now engage our attention, in order to ascertain the cause of this morbidly diminished action of the heart and arteries, which appears to be the overruling state of the system in the second suit of symptoms.

[1] *It comes on with a sense of lassitude* [2] *and inactivity.*

This suit consists of but two symptoms; both of which have the same seat, the fibrous structure of the muscular system; and both, the same proximate cause, a very great diminution of the life of the muscular structure.

The action of the heart and arteries, is produced by the muscular structure of the ventricles; consequently, this morbidly diminished action of the heart and arteries must arise from the lassitude and inactivity, which, at the commencement of the inflammatory character of fever, pervade the muscular structure of the ventricles, in common with the whole of the muscular system.

From the preceding investigation, is it not perfectly evident, that the muscular structure must be the seat of the inflammatory character of fever?

This induction is drawn from the following considerations:

1. The first symptom, lassitude, is seated in the muscular structure.

2. All the other symptoms are mere effects, produced by the functions and morbid actions of muscular structure.

3. The two overruling states of the system, the morbidly diminished, and the morbidly increased action of the heart and arteries, which cause all the symptoms, after the two first, are referrable directly to the muscular structure.

4. The symptoms, from the first to the last, are one continued chain of cause and effect, and are capable of being produced, by whatever causes the sense of lassitude.

5. In the examination of the symptoms from effect to cause, it has been clearly proved, that all the symptoms emanate from the derangement in the functions of the muscular fibre.

We have then traced the inflammatory character of fever to its seat, *the fibrous structure of the muscular system.*

Having located this character of fever, we shall endeavour to investigate its proximate cause.

"The proximate cause of fever seems hitherto to have eluded the research of physicians; and I shall not pretend to ascertain it in a manner that may remove every difficulty."*

It can hardly be expected that we should be successful in that which has eluded Dr. Cullen, and all the other great luminaries of medical science. We may, however, be permitted to make an humble attempt, since we have laid a solid foundation, by assigning a seat to the inflammatory character of fever.

Doctor Cullen,† says, "As the hot stage of fever is so constantly preceded by a cold stage, we presume that the latter is the cause of the former; and, therefore, that the cause of the cold stage is the cause of all that follows in the course of the paroxysm; see Boerhaave, Aph. 756."

We have no doubt the doctor was correct in saying, that the cause of the cold stage is the cause of all that follows in the course of the paroxysm. And we believe we can go further, and say, that, whatever produces the first suit of symptoms, the sense of lassitude and inactivity, is the cause of all that follows in the course of the paroxysm.

We have examined Thomas's description of the inflammatory character of fever, in the order of effect to cause, and proved that all the effects may be produced by whatever causes the first suit of symptoms; and, that the train of symptoms is in reality cause and effect; it follows then, that whatever produces the first suit of symptoms, must be the proximate cause of this character of fever.

We have shown that lassitude is seated in the fibrous structure of the muscular system; and that its proximate cause is a very great diminution of the life of the muscular fibre.

* Cullen's First Lines, *par.* 33. † First Lines, *par.* 34.

We shall now examine the several symptoms in the inflammatory character of fever, by stages, and by suits and groups of symptoms, and endeavour to ascertain if a very great diminution of the life of the muscular fibre can produce all the symptoms.

The second symptom, in Thomas's description, is *inactivity;* this is well known to be the effect of lassitude.

Succeeded by vertigo. The seat of this symptom we have traced to the brain; its proximate cause is the morbidly diminished action of the heart and arteries.

We have now to inquire in what manner a very great diminution of the life of the muscular fibre can affect the circulation.

There is a certain consent, or unison of action, between similar parts, throughout the whole of every system of organs, or vessels, composing the human body; which is well known to physiologists, and is sometimes denominated sympathy.

Proof of this consent of parts.

Dr. Cullen* says, "that a certain condition prevailing in one part of the body, occasions a similar condition in the other."

The taylor, who has wrought all day with his needle, finds every muscle of his body fatigued and exhausted, even to his toes' ends, although he may not have moved from his seat for twelve hours. The pedestrian, who has walked for a long time, finds his superior extremities nearly as much fatigued as his inferior.

"If we fatigue one limb by violent exertions," says Wilson,† "we find that we have, though in a less degree, diminished the power of every other."

Point out to me a person who is tired all over his body, with the exception of one hand. Show me the man, exhausted with labour, who does not prefer silence to loquacity, although he may not have spoken ten words for the whole day. Where is the orator that can address an audience for six hours, and feel no fatigue, except in the organs of speech. Till this is done, we deem it unnecessary to adduce further evidence, in proof of our position.

* First Lines, *par.* 44. § 2. † Febrile Diseases, Vol. I. p. 203.

Now, I presume, we are prepared to understand, that a sudden and great change of temperature, acting upon the surface, or any other part of the body, so as greatly to diminish the life of the muscular fibres of that part, may, and will, affect all the muscular fibres of every other part of the body; consequently, the muscular fibres of the ventricles will undergo a similar change in life with those primarily affected. And as the circulation corresponds very exactly with the muscular action of the ventricles; the effect of a very great diminution of the life of the muscular fibres of the ventricles of the heart, will be, a diminished, and probably, an irregular circulation of the blood.

A diminished circulation, is then precisely what must follow as the effect of such a cause, for to lassitude and inactivity of the muscles, naturally succeed languor, sluggishness, and unwillingness to move, which is the condition, not with the ventricles alone, but with every part of the body.

Rigors. The seat of this symptom is the fibrous structure of the muscular system; its proximate cause, a very great diminution of the life of the muscular structure. This is a state of the system which we have already shown existed, and to which this symptom is referrable.

Pains over the whole body, but more particularly in the head and back. This symptom has also been traced to the muscular system; and its proximate cause, to a very great diminution of the life of the muscular structure; and, therefore, referrable to the same state of the system, as the last mentioned symptom.

We have then proved, that all the symptoms, in the first stage, may arise from a very great diminution of the life of the muscular structure, producing lassitude.

We will now examine the second stage, and see if it be possible, that the overruling state of the system, in this stage, a morbidly increased action of the heart and arteries, should arise from the previous stage of morbidly diminished action. We shall, at the same time, inquire if the several symptoms in the second stage can also be produced by this morbidly diminished action.

The first suit of symptoms in this stage is, [1] *which symptoms are shortly followed by redness of the face,* [2] *throbbing of the temples,* [3] *great restlessness,* [4] *intense heat,* [5] *and unquenchable thirst,* [6] *oppression of breathing,* [7] *and nausea.* Each of the symptoms in this suit has been traced to its source, and its proximate cause assigned. The 1, 2, 3, and 4, have their seat in the circulating system; and their proximate cause is morbidly increased action. The other three, 5, 6, and 7, are local symptoms, and have local seats; but their proximate cause is morbidly increased action of the circulating system. Then our whole attention, in this suit of symptoms, will be directed to the circulating system as the seat, and to morbidly increased action as the proximate cause.

The overruling state of the system in the FIRST STAGE, we have already proved to be the morbidly diminished action of the heart and arteries; its proximate cause, a very great diminution of the life of the muscular structure. It would appear paradoxical, that this condition of the system should produce the overruling state of the system in the SECOND STAGE, the morbidly increased action of the heart and arteries.

It is not an easy matter to comprehend, in what manner a morbidly diminished action of the heart and arteries, should produce their morbidly increased action. But, to the fact, we have the testimony of almost every medical writer. Dr. Cullen expressly says, the hot stage of fever is caused by the cold stage.

The seat of the first suit of symptoms, in the second stage, being fixed in the circulating system, we have only to inquire in what manner a very great diminution of the life of the muscular structure can produce a morbidly increased action of the heart and arteries.

In another place,* we have shown that the arterial circulation is produced by the muscular contraction and dilatation of the ventricles of the heart, and wholly under its influence. Our wide field, then, is reduced to a

* Institutes, not published.

single point. In what manner can a very great diminution of the life of the muscular fibres of the ventricles of the heart, characterized by a small and weak pulse, produce a morbidly increased action of the same fibres, which shall be characterized by a full and strong pulse? This effect is what has been called Reaction. This principle has been acknowledged by all writers on medicine; but we are not able to trace it to any of the well known laws of the animal economy.

The plain history of facts, without any varnishing, or reference to preconceived theory, so far as I understand it, is this: The general life of the whole body is borne down and oppressed by some cause, as in the stage of morbidly diminished action of the inflammatory character of fever, till it approximates that point where life must quit this mortal frame. This oppressing cause, however, is not generally equal to the extinction of life; and when the opposing cause has gone the full length of its power, the life of the system and the opposing cause remain, for a time, in equilibrium. At length the vitality of the system gains ground, and reacts upon the oppression, till it produces that train of symptoms denominated the stage of morbidly increased action.

Similitude proves nothing, or we might instance the reaction of a bow, a tense cord, elastic bodies, &c.

I would attempt to explain this principle of the animal economy in the following manner. The violence of the action of the proximate cause of fever produces a shrinking of the external parts of the body,* which forces the blood upon the heart and larger vessels. This unusual quantity of blood in the heart imparts more stimulus to its muscular structure, than what would be derived from the usual quantity of blood; or, perhaps, the mere over distention acts as a stimulant. The one, or both of these, may possibly have a tendency to reanimate the muscular fibres of the heart, and to relieve them from their very great diminution of life, and thus produce what is denominated the reaction of the system.

In fact, rest, friction, and the genial warmth of the

* Vide Cullen's First Lines, *par.* 46.

arterial blood, are precisely what common sense would dictate as being the most likely to restore the very great diminution of the life of the muscular fibres. Since the heart is but secondarily affected, by the proximate cause, and not so powerfully as those muscles which shudder, we should suppose the heart would first regain its diminished life.

If this explanation of reaction be correct, of which we have but little doubt, then it will be seen that the hot fit follows the cold, in the order of cause and effect, as conjectured by Dr. Cullen.

We will give, in support of our opinion, a specimen of reaction, of a different kind from that which occurs in fever. In concussion of the brain, from whatever cause, there is universal prostration of strength; the pulse is scarcely perceptible, life seems just ready to quit her tenement. The cordial treatment becomes necessary to prevent immediate death. The system is roused; the patient soon revives; the pulse increases in force and fulness; a high state of the inflammatory character of fever supervenes, and many bleedings, purgings, &c. are necessary to save the patient. Here is a powerful state of reaction, evidently produced by the previous state of depression.

Dr. Thomas, in his description, goes on to say, [1] *The skin is dry,* [2] *and parched,* [3] *the eyes appear inflamed,* [4] *and are incapable of bearing the light,* [5] *the tongue is of a scarlet colour at the sides, and furred, and white in the centre,* [6] *the urine is red and scanty,* [7] *the body is costive,* [8] *and there is a quickness, with a fulness and hardness in the pulse, not much affected by any pressure made on the artery,* [9] *its pulsations are from* 90 *to* 130 *in a minute,* [10] *and when blood is drawn, it exhibits a yellowish or buffy crust on its surface.* All the symptoms of this suit, with the exception of one or two, have been traced to their seat in the circulating system; and their proximate cause proved to be morbidly increased action. This whole suit, then, is merely an effect of the existing morbidly increased action of the heart and arteries.

[1] *If the febrile symptoms run very high, and proper means are not used at an early period, stupor and delirium*

come on at a more advanced stage, [2] *the imagination becomes much disturbed and hurried,* [3] *and the patient raves violently.* The seat of this suit of symptoms we have already shown to be the brain; and the proximate cause, the morbidly increased action of the heart and arteries. Then it follows that Dr. Thomas's description is a connected chain of cause and effect; and whatever produces the first symptom, may be considered as the proximate cause of the disease; and it also appears that all the other symptoms are mere links in the same chain of cause and effect.

We have already proved that a very great diminution of the life of the muscular fibre will produce lassitude, and all the phenomena attending the stage of morbidly diminished action; and that the natural tendency of this stage is to produce reaction, whence arises the stage of morbidly increased action, and all the train of symptoms which follow; therefore, we infer, *that a very great diminution of the life of the muscular fibre* is the proximate cause of the inflammatory character of fever.

This deduction is supported from a knowledge;

1. That lassitude is seated in the muscular fibre.
2. That the proximate cause of lassitude is a very great diminution of the life of the muscular fibre.
3. That the inflammatory character of fever is seated in the muscular structure.
4. That a very great diminution of the life of the muscular structure will produce lassitude, and all the other symptoms in Thomas's description.
5. That no other individual cause can produce all those symptoms.

(*To be completed in our next number.*)

On the Medical Character, (No. 2.) *by* Thomas D. Mitchell, m. d. *of Philadelphia.*

In a paper published in the last number of the Medical Repository, I attempted to expose to public view the shameful manner in which young men and others find an introduction to medical practice. The object of the

following remarks is simply a continuation of the subject, in a form somewhat different. I shall endeavour, by stating briefly the true character of a good physician, and by showing the importance of medical men in some of the most interesting concerns of life, to exhibit the folly of those who encourage quackery, and thus bring disgrace on an honourable profession. I trust that in this endeavour, I am influenced by no other motive than a love of truth. It is to the end that truth on this important subject may gain the place of error, and by a general inculcation, restore medicine to its legitimate seat, that I am induced to stand up and assert the honour of my profession. And is not this a motive sufficiently laudable to warrant me in the undertaking? Does the poorest mechanic look with contempt on him who would ignorantly usurp authority in his vocation, and stand forth the champion of the rights and principles of his business—and shall the weak, the ignorant, the base, yea, the very outcasts of society, present themselves to the public as the fair representatives of medical character, and pass into notice and favour, fearless of censure, harmless from the shafts of truth? No, they shall not. Long as the memory of Sydenham, and of that man who on this side the Atlantic was Sydenham's brightest image, shall be cherished and loved, so long shall quackery be lashed naked through the world, and its deformities exhibited to public contempt.

The great variety of character discoverable among those who offer themselves as practitioners of medicine, has led some persons to inquire, what are the constituents of a real physician. And as this inquiry can be most satisfactorily answered by a reference to individual character, and as, in my opinion, Dr. Sydenham stands pre-eminent as a model in the profession which owes so much to his labours, I shall point out the ingredients which are essential to form a physician, by a survey of the character of this great man.

Those who knew best what the facts were in relation to the disputed question concerning the education of Sydenham, testify, in the plainest terms, that it was perfectly regular, both in medicine and academical instruction. He was one of Oxford's pupils, and from the

University of Cambridge he received his medical passport. These facts are necessary to be repeated, in order to overturn the opinion so often introduced by ignorant and idle practitioners, that this illustrious physician acquired his information in the visionary fields of chance, rather than in the temple of science. "Men," says Dr. Rush, "may become wise and distinguished by meditation, or observation in the science of morals and religion, but education and study are absolutely necessary to constitute a good physician." And herein lies the grand difference between the scientific physician, and the man who merits the title of a quack. The one pursues an avocation, the nature of which he has learnt by long application to its principles; the other presumes to understand the rules and practice of what he calls his profession, without any previous study, or what is worse, with neither talents nor industry to investigate. Most of the pretenders in medicine have originally pursued some other business or calling for which they had no talent, and supposing, as most people do, that any one may cure diseases, they have fled to the healing art as the last refuge of their hopes. But the man whose claim to the medical character is well founded, owes his pretensions, not to an arrogant assumption of a profession for which he was never intended, but to a long and attentive study of the facts and principles which form the basis of all good sense in medical science. How opposite, then, the qualifications of the true physician and the pretender, to practice with propriety that noblest of all arts, the art of healing. One would suppose, that a rational man could not for a moment countenance the ignorant, yet bold pretensions of the quack. But how often are we called, with painful emotions, to witness such conduct! To see an enlightened, literary character, proposing to an aged, learned, and experienced physician, versed in the history of ancient as well as modern medicine, to call in consultation an illiterate creature, whose only claim to public notice was, that he performed all his cures "free of charge and with herbs," is enough to sicken the heart of any man who possesses a particle of sensibility. Yet such a case has occurred in the city of Philadelphia, and

that too in so important and so frequently fatal a disease as pulmonary consumption.

I have stated in general terms, the character of the man now selected, to set forth the true medical practitioner. His professional excellence has been acknowledged in all countries where medicine has been scientifically cultivated, and for this reason especially, that *his conduct as a physician was never tributary to chance, but always rested on the solid basis of observation, guided by just principles.* This is the grand line of division, and it must continue to be the separating wall between regular medicine and daring quackery. And if any one is at a loss to determine who is or who is not a quack, let him come to this touchstone, for it will infallibly decide in all doubtful cases. For without this trait of character, it is no matter how many colleges may have been visited, how many books consulted, nor how many diploma received. In this respect our profession resembles that which of all others is the most sacred, I mean the ministerial calling. For, who is there that esteems any one in the light of a gospel minister, simply because he has acquired a profound knowledge of the dead languages, and been ordained to his high office? Does all this entitle him to the rank to which he aspires, so long as he is destitute of piety? By no means, and in this respect, popular opinion is generally correct. Why then, I would ask, should any man receive public patronage as a physician, who so far from acting under the influence of principles in medicine, totally disclaims them, or else discovers to every one that he knows nothing about them?

But it is not always the medical character of a quack, that occasions the least injury to society. Such men are generally devoid of moral rectitude, further than relates to their exterior deportment. They evince, by the fact of undertaking a most important business for which nature never intended them, a total want of moral principle and virtuous sentiment. Very different from this was the excellent Dr. Sydenham. "He was," says an eminent writer, "a man of the most exemplary morals, and benevolence was his predominating virtue. He loved the whole human race, and sympathised with every

species of human misery. He thought it was not acting the part of a *good* man to convert to his private advantage what might prove eminently serviceable to the public, nor of a *wise* man to deprive himself of the blessing he might justly expect from heaven, by endeavouring to promote the public good." But his benevolence was not confined to the age in which he lived. He included posterity in all his efforts to advance human happiness, and instead of concealing any thing from the public view, that was calculated in his estimation to benefit mankind, he was ever forward in developing the treasures of his mind. That he was pre-eminently a man of candour, is evident from the frequent acknowledgments made in his own writings, of erroneous views with regard to several diseases. And so far was he from being led by avaricious motives, that he declares in the most public manner, "he had rather discover a certain method of curing the slightest disease, than to accumulate the largest fortune." The purity of his motives was so great, that he ever preferred the life of a fellow creature to his own reputation and interests, and thought no man in a condition to do justice to his patients, who was not influenced by similar feelings. I need not add to all that has been said, what every one must believe, that Sydenham was a christian. He was so truly, if virtuous conduct is any criterion by which to judge in such a case.

For a moment at least, let us compare some of the traits in Sydenham's character, with the prevailing disposition of the quack. The medical difference between the two has been already noticed, and it remains to contrast their morality. In attempting this, what shall we say of the candour of quacks? if we would say truly, we must declare that their entire dispositions are the very reverse of candour. What! can that man be possessed of candour, who dares to approach the sick bed of one who has a large and helpless family dependent on his exertions, with the full conviction (if he examines his own heart) that he is wholly unqualified by art to do that for which no man was ever fitted by nature? Candour in such a breast! it cannot be. It may be said, however, in extenuation of guilt, that such a man may act under an impression that he is qualified, while he is really

not so, and yet remain innocent, free of evil designs. This, however, will not serve as an excuse, nor will it be sufficient to adduce some qualifications, to justify the want of that essential part of the medical character, without which, all others are worse than useless. Ignorance, instead of palliating guilt, enhances its enormity, if the person who claims extenuation on this ground has the means of removing that ignorance, either in whole or in part. The candour, benevolence, gratitude, amiable deportment, and other moral qualities of Dr. Sydenham, did not make up the whole of his medical character, and would have failed altogether of gaining him the reputation he so justly acquired. And yet, how many are there, who would not relish the epithet of quack as applied to them, whose only hope of getting into favour with the community, rests on a pleasing address, a certain whining of the voice, or something of the "graceful" in their movements; all of which are so truly contemptible, when made the basis of medical popularity, that no better evidence of a quack need be adduced, than the fact of his resorting to such means in order to acquire business.

It cannot be a matter of astonishment, that the medical character has been highly honoured in almost all ages of the world; I mean the medical character, as exemplified in such men as Dr. Sydenham. It has received the encomiums of kings and emperors, and what is better by far, the respect of truly good men. An eminent divine, in a letter addressed to Dr. Percival, thus expresses himself: "I have long been in the habit of reading on medical subjects; and the great advantage I have derived from this circumstance is, that I have found opportunities for conversation and friendship with a class of men, whom after a long and attentive survey of literary characters, I hold to be the most enlightened professional persons in the whole circle of human arts and sciences." And Mr. Pope, the celebrated poet, writing to a friend, says, "there is no end of my kind treatment from the faculty. They are, in general, the most amiable companions and the best friends, as well as the most learned men I know." Such is the respect which has

been paid to a profession that has successfully contended with knights for precedence, in many instances.

The importance of the medical character in its purity has received, and ever will receive, even from those who in some respects cast the greatest reproach upon it, the most decided acknowledgment. For who is there among those who inconsiderately countenance quackery in the diseases of their families, who would not gladly prefer the professional testimony of a regularly educated physician, in matters before a court of justice. Indeed, the testimony of a man who was known to a court and jury as an uneducated practitioner would, in most cases, be regarded as of no consequence. Nor would any person, who wished to establish a will, on the ground of the testator's sanity, ever think of producing a quack's testimony in the case, but would far rather be able to offer the evidence of the most enlightened physician, if this were in his power. Is not this the case further in relation to the testimony of medical men, in suits which involve life? who would on such occasion risk an existence to the ignorance of quackery? But property and life are not all the important circumstances capable of being affected by medical testimony. Character, that most sacred possession, dearer than all the possessions of earth beside, without which a man is nothing superior in importance to a beast, is liable to be elevated or blasted by the evidence of a physician. There lives not a man, however blinded he may be by error in relation to quackery, who would rely on the testimony of a pretender in medicine, where that testimony, through ignorance, might totally ruin the reputation of a friend.

The evidence of physicians in cases where life is involved, has been noticed already; but it will be proper to state a most important instance of this kind, now in the writer's recollection. Two men were condemned for the crime of high treason against the laws of the United States, during the administration of the great and good Washington. These men were confined in the Philadelphia prison, and one of them was reported to be insane. In consequence of the rumour, the President commissioned three eminent physicians to examine the prisoners, with the view of deciding the point in question.

The persons commissioned were the late venerable Shippen and Rush, and Dr. Samuel P. Griffiths, who is still living. They entered upon the important duty which had been assigned to them, and were, finally, so completely satisfied of the insanity of one of the prisoners, as to sign a report to that effect, for executive inspection. In consequence of the report thus made, the President was induced to grant a respite to both the prisoners, and at the end of that period, popular clamour had so subsided, that a full pardon to both met with but little opposition. So much for the importance of medical testimony. But let me ask one question, naturally arising out of the fact above narrated. Suppose the President had selected three notorious quacks, or three indifferent persons calling themselves physicians, to examine into the case. Would a pardon, or even a respite, founded on the report of such men, have failed to excite public clamour? I am bold to aver that it would not; and this solitary circumstance is amply sufficient to condemn altogether every species of encouragement afforded to quacks. Men will not countenance quackery in the smallest degree, in matters of public notoriety which involve property, life, or character, and yet feel no scruple in giving it admittance within the family circle.

Having thus briefly noticed some of the cases in which the importance of the medical character has been duly appreciated, I shall now endeavour to point out a variety of persons, who are not entitled to the name of physician, in the true sense of that term. And here, it must be confessed, not a little difficulty presents itself, and yet propriety demands an explicit view of the case. Who, then, are we to regard, as not entitled to any just claims on the medical character? I answer, generally, by naming three classes, viz. *mongrel graduates, uneducated though successful practitioners, and audacious impostors.*

First, of *mongrel graduates.* The epithet here used, to denote a certain peculiarity of persons, who, while they carry with them the parchment on which is registered the whole of their title to the medical character, do, nevertheless, rise into favour, and sometimes into eminence, most undeservedly, may be viewed by some

as altogether objectionable. But, it seems to me, that no term can better convey to the mind the idea of a graduated doctor, ignorant of his profession, or so illiterate in other respects as to be scarce able to write, and at the same time degrading the profession to the level of a mere dealer in merchandise. Such men there are, in every town in the United States ; but in Philadelphia, more than any where else, is this non-descript character prevalent. The late Dr. Rush very aptly styled the persons of whom we are now speaking, "*traders in medicine ;*" and no one had a more contemptible opinion of such doctors than the late professor. These traders are, in most instances, of that class of people who were never designed by nature to act in the treatment of diseases. They are, in other words, such creatures as would probably have rendered nature much better assistance, and brought to themselves far more credit, by wielding the plough and other implements of husbandry. The texture of the brain in such people has always been so impressible by the terms and principles of science, as to have made it a matter of no little surprise that they ever obtained a degree. And indeed it must have been, as we know it has been, by dint of most laborious exertion, that a stock of knowledge forced its way into the memory sufficient to enable the individual to squeeze through the forms of an examination.

The mongrel graduate is always an illiterate man, and never procures more information on medical subjects than will barely suffice to screen him from the degrading dilemma of being rejected by those who examine him, with the view of conferring a degree. For no man possessed of respectable talents would content himself with the reception of a diploma, as a matter of *favour.* His ambition would unavoidably lead him to seek an honourable dismissal from collegiate duties, and he would therefore endeavour to *merit* a degree, and so obtain it as a matter of right. Ignorance, however, is never associated with modesty in these mongrel gentry. They are always forward in their dispositions, and seldom, if ever, gain the respect and affection of good men, notwithstanding their attempts to impose, by assuming a sort of manners totally foreign to their native

characters. They are ever acting the part of public intruders, by forcing themselves into notice every where, and on all occasions. If a vacancy occur in any of the medical charities, the man of modest merit finds, in this class of practitioners perhaps half a dozen rivals obstructing his course in pursuit of the prize. Indeed, such is the assurance of these men, that truly deserving physicians have often been deterred from attempting to rise into notice, lest by failing, they should experience the mortification of beholding ignorance and arrogance elevated to an eminence which should be occupied only by talents and respectability.

It may sound strangely, but it is nevertheless a truth, that of all quacks, the mongrel graduate is the most injurious to the profession. He is so, because the common people invariably suppose such a one to be, indeed, what he professes. He, therefore, doubly deceives, and is of consequence doubly mischievous. Of the avowed impostor every one is aware, and the individual who is injured by the nostrums of such a one, can blame no person but himself. Whereas, when the mongrel is employed to cure a disease, the patient supposes himself to be in the hands of a man who is master of his business, and thus innocently jeopardizes his life. Nor is it the patients only of such practitioners who are injured by them. The regularly educated physician, whose talents are obscured by modesty, is the greatest sufferer. He beholds a man recognised and encouraged as a physician, who has no other evidence of qualifications, than that he is a graduate, and who, if justice had been awarded him, would not have received even the exterior insignia of the profession. He is injured, therefore, when such a man is selected by the community, to administer medical relief. For it may be asked, and with great propriety, how can the common people distinguish between men who wear the same professional badge? This, it must be granted, is a difficult case, and we know not how to prescribe a satisfactory rule. But with men of good sense and polite education, the distinction must be perfectly easy, and thefore to point out a rule for them were useless. Such persons discover, at first sight, that the mongrel graduate is, by no means, a scientific man;

that he is not an observer of nature, or if an observer, that he is none the wiser for it, as he knows not how to derive advantages from this source. It will not, therefore, be in the power of the community at large to guard against this species of practitioners, and we must despair of ever seeing the evil remedied until the regulations of universities shall have been so far rectified, as to exclude every man from medical honors who is not properly qualified to discharge the duties of so important a profession.

The next class of persons to be considered, as not entitled to the appellation of physicians, are all such as presume to practice medicine, without any, or with but very little preparatory study to that end. They are not unfrequently men of some literary acquirements, but there are among them also many very illiterate characters. If we inquire into their history, we discover that they have originally pursued almost all the various avocations among men. From the smiter of the anvil, up to him who was intended by those who had charge of his early years, to be initiated into the duties of the clerical order, there have been found not a few, of all trades and descriptions, who have arrogated to themselves the right of practising physic. We have at least one celebrated genius of the quack race in this city, who was formerly a vender of shoe-blacking, and who, for aught I know, might have been a shoe-black. We have several others, who, if we may believe their story, were educated for the ministry; but having neither talents nor dispositions suited to that calling, and presuming that any man might be a doctor, resolved to enter the lists with the sons of Esculapius. And I have known another of these pretenders to the healing art, who but a few years since was, in some degree, respected as a mechanic; but interest rising superior to principle, and no doubt anticipating a day not very distant when he would be engaged in the more honourable business of a doctor, chose to cut short his affairs, by winding up his accounts in the debtors' apartment. On procuring a release from the iron grasp of injured creditors, this aspiring gentleman made his escape to an eastern town, where he commenced the practice of medicine,

and very shortly afterwards had the unblushing effrontery to advertise a " popular course of lectures."

But it may be asked, (and yet facts make the inquiry needless,) do such men ever succeed in obtaining business ? I answer, by a reference to such characters, wherever they are to be found, and that is every where. Facts are stubborn things; and we cannot lose the remembrance of them, where they have occurred within our personal notice, so as to excite feelings of disgust. I will detail one of this species in as brief a manner as possible. When I was a student of medicine, and an attendant on the practice of the Philadelphia Alms House, I frequently observed a man who came there for the purpose of learning how to perform the operation of venesection. He was not suspected by any one of having any other object in view than to become a bleeder. In a few months afterwards I observed his name on the door of his dwelling, as Dr.——, and before a year had expired, a horse and gig were provided for the expedition of the doctor's business. To give a sample of his surgical skill, I will here mention, that I once saw this self-instructed gentleman engaged in dressing a common incised wound, made with a broad sword. He treated it by " stuffing to the bottom," as a writer has termed this sort of practice. The wound was well filled with lint, and as much Fry's balsam poured in as the lint would absorb. I consider this as a fair specimen of the skill of this " riding doctor ;" and, notwithstanding his ignorance, I think it may be said, without exaggeration, that for ten patients I have had, he has attended at least one hundred. He acquired business, by what the common people style " condescending manners ;" that is, a readiness to act in any capacity, however menial, to serve his patients ; and by a sort of deportment, which means any thing or nothing, and yet effects the purposes of the quack most completely.

It would be an endless task to enumerate all the arts practised by these uneducated pretenders to gain a living. One induces a belief, that he is very wise, by making fifty inquiries that are totally unnecessary, and irrelevant to the case. Another begets confidence by enumerating a host of hobgoblin cases of desperate

character, which never occurred, but which, notwithstanding, were cured by his unequalled skill. A third directs that no one be permitted to pass the door-sill of his patients dwelling, unless he has first taken off his shoes, lest the rest of the sick person should be disturbed. This extremity of precaution procures to the doctor a character for attention to his patient's welfare. Thus every expedient is resorted to by the quack, for the purpose of appearing to be skilled in a profession of which he is radically ignorant; and his artifices are crowned with success. While the well-informed physician lives in obscurity, and almost without the means of defraying ordinary expenses, these ignorant intruders rise into notice, and frequently grow rich, even to independence.

Theoretical Observations *on the use and functions of the* Salivary, Lachrymal, *and other* Glands *in the* Human System. *By* Horace H. Hayden, Esq. *Surgeon Dentist, of Baltimore.*

It is asserted by most physiological writers on this subject, that the *salivary glands* are *necessary* to digestion; that this is the *intention*, *use*, and *operation* of the fluid secretions from them.

A very natural and reasonable conclusion, I admit; as much so, as that the water in a marsh attenuates the mud; or, that the water of a brook emptying into a river, increases the quantity. But I beg leave to ask, if they were really intended for this purpose—or are they really necessary in that operation? If they were intended for that purpose, why do they discharge their contents in a direct contrary direction from the orifice of the pharynx; as the maxillary, sublingual, and, in fact, the parotid glands? the situation of the salivary ducts, from whence the saliva is discharged into the mouth, seem to indicate that they were not intended, at least exclusively, to assist in digestion; for had they dis-

charged their contents more immediately into the œsophagus, it would have, perhaps, obviated that excessive waste of this fluid, which prevails, in many instances, without any visible effect.

If intended to soften down the food in mastication, and facilitate digestion, might we not as reasonably expect to see the maxillary and sublingual ducts discharging their contents in the neighbourhood of the parotid ducts, and like them, falling more immediately on the food in mastication? Or between the dentes molares and cheek of the inferior jaw, to be acted on by either the *masseter* and *buccinator* muscles?

In reply to this, it may be said, that if they were situated on the outside of the jaws, they would be much more liable to obliteration from cuts, wounds, &c. as is sometimes the case with the parotids. This is admitted. But it would be not only rare, but *truly unfortunate*, if they should be obliterated on both sides.

A much more probable reason presents itself in opposition to such an arrangement. It would not have answered so well the views and intentions of the great protector of our frail system as the present distribution of those *important* organs.

Secondly. Are the salivary glands necessary to the digestion of our food? If for that purpose, it follows, that it is necessarily so; therefore, cannot be dispensed with, without producing some material derangement in the economy of the system; for it will seldom be found that nature, in the execution of her plans, employs any thing unnecessarily, although at first, it may appear so.

It may not be amiss, in the first place, to take some notice of the probable quantity that is secreted from the salivary glands, together with the quantity discharged from the pancreas.

It is said by Helvetius, that a soldier of the guards received a cut of a sabre across the cheek, which laid open the parotid duct; the wound healing on the inside of the cheek, occasioned a constant discharge outwards from the parotid duct. At the time of his repasts, there flowed from the orifice an abundance of saliva; insomuch, that during dinner, which is short in the Hotel-Dieu, it moistened several napkins. Sabatier mentions, that a

soldier moistened three napkins, during a short repast, by the saliva which escaped from one of the salivary ducts of *Stenon*, which remained open from the effects of the wound.

Gavard mentions having seen at the Hotel-Dieu, a man affected with a similar complaint, and who lost at a meal, in the space of ten minutes, at least two ounces of saliva.

It is also said that the salivary glands have been known to discharge twelve ounces in an hour.*

It is likewise said that half an ounce an hour is constantly discharged and swallowed.†

Therefore, it appears, agreeable to the case mentioned by Gavard, that if two ounces of saliva are discharged in ten minutes, (and this is confirmed by Haller,) the quantity discharged in twenty-four hours would amount to two hundred and eighty-eight ounces.

But it will be considered that this quantity was discharged at the time of a repast; and, therefore, at a time when the glands were subject to the greatest action of the muscles, which promote the discharge of the saliva consequently, by no means a proper time by which to ascertain the probable aggregate quantity discharged in twenty-four hours. If we admit the twelfth part of the above quantity to be secreted, including the hours of repast, (at which time much the greatest quantity is discharged,) and extend it to sixteen hours only, for very little is discharged from them during sleep, the quantity will amount to sixteen ounces.

If we next consider the pancreas, which is three times as large as all the salivary glands of the mouth, ‡ and admit a proportionate quantity of fluid secreted, it will amount to forty-eight ounces in sixteen hours; and probably much more, if we were to form a conclusion on the comparative size of the ductus *Virsungi*, and the salivary ducts.

This quantity, added to the salivary discharges, amounts to sixty-four ounces in sixteen hours, exclusive of the glandular secretions of the mouth, œsophagus, and stomach—a quantity that far exceeds, at least in

* See Haller's Physiology, page 293. † See Haller's Physiology, page 318.
‡ See Haller's Physiology, page 335.

most instances, the quantity of food received into the stomach in twenty-four hours, without taking into view the quantity of drinks of different kinds that are received during that time.

If we next consider the nature or quality of the food, which constitutes our daily subsistence, as to its being fluid or solid, we shall be able to form a more correct opinion of the probable quantity of juices required to digest it.

If the salivary juices are *necessary* to promote digestion, how is it, that those who are in the constant habit of chewing tobacco, opium, &c. from the time they arise in the morning until they go to rest at night, (hours of repast excepted,) and who scarce swallow a drop of the saliva, yet are strong, robust, and uncommonly healthy, (of which there are millions,) and in general more exempt from indisposition, at least those who chew tobacco, than those, on the contrary, who do not indulge those habits.

There are exceptions to this rule in some instances, I admit, where, as is supposed, it has probably induced a dyspepsia, and even phthisis.

But I am inclined to believe that *much* of the result in many of those cases may be ascribed, with truth, to the effect that it has on the mind ; for in many instances of this kind that occur, they are persons who have recently commenced the habit of chewing tobacco ; or if not so, they are not only in the habit of spitting constantly, but under perpetual apprehensions of swallowing a drop, for fear of creating a nausea. This produces a dryness in the fauces, and an almost constant, but involuntary effort to swallow, without allaying, in any degree, the propensity. At length, it becomes a source of vexation, a constant, but almost insensible teasing of the mind, until, wihout reflecting on the cause, a wasting of the substance is manifest, although, at the same time, the due secretions and evacautions of the system are regularly performed.

Diseases are often produced in this manner ; merely from the sharp pointed remains of a decayed tooth, with which the tongue is incessantly at work, and which at length deprives the patient of every comfort, and fever

is induced, and other symptoms, not only unfavourable, but extremely obstinate. I think I may venture to assert, that a sharp-pointed feather, permanently fixed in a person's clothes, in such a manner as to goad him constantly in some tender or irritable part, would produce not only a wasting of flesh, but a real dyspepsia, and perhaps something worse.

It is the constant, but slow teazing of the mind, that will often, from various circumstances, produce surprising effects in the constitution.

It was thus that the lion was wrought up to a phrenzy; not by the pains occasioned by the goading of a simple gnat, fixed in his nostril, but by the incessant teazing of his royal intellect.

If the salivary juices are necessary to promote the digestion of the grosser kinds of food, in use among us, can it be considered as necessary for the Arabs, and many of the tribes of Africans, as well as Turks, Egyptians, Hindoos, &c. who live almost constantly on boiled rice, dates, and milk?

If so necessary in performing those important functions, how do not only those who chew tobacco, opium, &c. dispense with the saliva, but those who, from a fall, blows, cuts, &c. have unfortunately had their under teeth knocked out, and lips so lacerated that the saliva is constantly running from the mouth, without the power of retaining it; and also sometimes are subject to fistulous holes under the chin that extend into the mouth, and through which the saliva is incessantly discharging, except during sleep?

Lastly, there is a period in infancy, at least for several weeks, when there is no visible discharge of saliva in the mouth of the infant; for there is little or none running from the mouth, and they are seldom seen, or known to swallow, except when at the breast, or fed—nor do they for many months (except at the times above mentioned, and even then it seems to be mechanically,) acquire the faculty of swallowing with facility; not even until they have several teeth, during which time they begin to partake more or less of grosser food than milk. It is then we see the saliva constantly running from their mouths, and almost without ever making an effort

to swallow it, or even restrain it, except when laid on their backs; at which time it collects on the palate, and obliges them to swallow. If it is so necessary, how can they for the first eighteen or twenty months dispense with so much, and yet thrive so fast and enjoy such a measure of health?

I admit that it is wisely, and *necessarily* provided by the bounteous gift of nature; that it is *indispensable;* that without it we should become loathsome to ourselves, and all those around us; yet, I must be indulged in the belief, that it was intended also for other purposes, *equally* important, and for such as are hereafter explained.

The human mouth being considered as subject, at all times, under various circumstances, not only to a healthy, but to a morbid secretion, which, under certain degrees of action, is liable to form a sizy, acrid, and sometimes incrassated mass, or collection of fluids in this cavity, and which is often rendered perhaps more so by access of atmospheric air, it seems evident that in this state it is unfit to be received into the stomach, or be re-absorbed.

Hence, we see this wise provision, this copious flow of saliva into the mouth, doubtless with the intention to correct the acrimony, by diluting the unhealthy secretion, thereby preventing its injurious effects in the mouth, rendering it easy and safe if carried into the stomach, and easy of being absorbed.

That the salivary juices were intended, (at least in part,) for this purpose, admits not a doubt in my mind; that they are necessary for that purpose must appear evident from an almost infinite variety of circumstances.*

* It will, very probably, be said, that having advanced an opinion on the effects of acrid secretion, as well in infantile dentition as in the decay of teeth, that this improbable conjecture, or wild whim of fancy, is introduced without the colour of plausibility, merely to support it.

I am sensible of the proneness and aptitude of human nature, when, having once started a favourite idea, or plan, to endeavour to convert every thing to its support; or at least to make every thing twist, bend, and become subservient to the favourite subject, as the oracle of truth, however absurd or erroneous it may be. But with neither of those do I feel myself in the smallest degree chargeable. In inquiring into the cause of the decay of teeth, and considering the nature of the secretions of the mouth at different times, I was led to the examination of the glandular system; and in applying the use of the salivary glands in this manner, I am induced to believe in the opinion I have advanced; for in this view, the glandular and absorbent system appear a thousand times more interesting than ever. But if I am wrong, I am open to conviction.

In a state of perfect health, and during the hours of sleep, when there is scarce any discharge of the salivary juices, the natural secretions of the mouth are sufficient to lubricate it, and render it free from any degree of fœtor, or inconvenience, when we awake.

But on the contrary, when any derangement of the economy prevails, from an impurity of the blood, or vitiated state of the fluids, we are sensible of the most unpleasant effects in the mouth when we awake from sleep.

But as soon as the action of the muscles on the salivary glands promote the discharge of their juices this inconvenience, even without eating or drinking, is, in a short time, removed, and the mouth is rendered comfortable.

If a fever prevails, during which the salivary secretions are almost suspended, this inconvenience, in proportion to the acuteness of the fever, will be increased also until the patient's situation is rendered extremely uncomfortable, from the filthy accumulation of matter in the mouth, that is often so acrid, as to produce a soreness throughout the whole cavity; and even cause the skin on the tongue to crack open in different places, and bleed.

If attention is paid to the period of infantile dentition, we see the importance of the salivary juices displayed (in this view) in a striking manner.

If the irritation is increased so far as to excite a moderate ptyalism, we see the saliva flowing in abundance from the mouth of the little sufferer; but if fever ensues, the salivary secretions are at once almost suspended, and the tongue becomes furred over, and often, before it terminates, a general appearance of aphthæ, is manifested in the mouth. I would not be understood, in the present instance, as meaning that the aphthæ, and sometimes ulceration, are produced in consequence of morbid secretion.

As soon as the fever subsides, and the salivary glands resume their functions, the incrassated secretions, and unnatural appearance of the tongue is removed, and a more healthy action is re-established in the mouth.

Many authors, in writing on the different diseases, and their symptoms incident to mankind, have noticed also the appearance of the tongue. But I know of no one that has remarked its appearance, in disease and health, more particularly than Mr. Abernethy, in his "observations on the disorders of health;" in which are mentioned a number of cases that would afford, I think, much real support to the opinion I have advanced on the use of the salivary glands, could I feel myself at liberty to comment upon the opinions of so respectable an author,

Such, however, is the effect of some of the diseases to which we are subject, in promoting acrid secretions in the mouth, and other parts of the system, that the necessity of such a provision as the salivary glands must be acknowledged as indispensably necessary, or how could we support ourselves under the operations of the disease; the effects would be such as to render us odious in the sight of each other, while we lived to linger through a miserable existence. Such, for instance, would be the effects of a severe attack of the meazles.

I may be thought, perhaps, to have given much too great a latitude in the opinion, particularly as it relates to the disease above mentioned. But such are the effects of this disease in the mouth, which I have often witnessed, that, were it not for the copious discharge of saliva, I should not be surprised to see the mouth eaten into holes, as well as the stomach, and the whole intestinal canal.

Therefore, since in this point of view there is such a striking analogy between the eye and the mouth, particularly, as to the effects of the above disease, I shall make a few remarks on it.

It is generally supposed that the secretions from the glandula lachrymalis were intended to wash away chips, sticks or moats, that accidentlally fall in upon the eye; to lubricate it, and also, to supply us with tears when we are disposed to weep, or cry. If this were true, we might expect to see millers, ashmen, chimney sweeps, and all others who work in the dust, with their eyes always full, or running with tears, which is not the case.

But, as soon as the acrid effects of smoke are felt upon the eye, we see the saliva (for it differs but little in quality) or tears, poured forth to prevent its inflaming, or otherwise injuring the coats of the eye.

Thus it is on removing the skin from an onion; in proportion to the quantity or strength of the acrid effluvia received from the onion, into the eye, so likewise will be the discharge of the tears, until the fluid is sometimes seen almost to stream from the eye. Such is the effect of volatile alkali, insomuch, that every reflecting mind will admit, that were it not for this beautiful provision of nature, and which is necessarily so, inflammation would ensue, and, in all probability, terminate in total blindness.

Notwithstanding the numerous glands which nature has supplied for the purpose of lubricating the eye, the mouth, the œsophagus, and, in fact, almost every part of the system, yet they are alike secreting surfaces, therefore subject, during the prevalence of diseased action in the system, to the effect of acrid or morbid secretion, as well as healthy.

Thus we see, in common inflammation in the eye during the night, or the hours of sleep, when, like the salivary glands, there is little or no discharge from the lachrymal gland, the eyelids in the morning, or when we awake, are so completely aglutinated, that it is not without difficulty that they can be opened; and when they are, the coats of the eye are so susceptible, that even the light is painful to them. But as soon as the due secretion from the gland takes place, the irritation, in some degree, is allayed, and the pain relieved.

It would be easy to point out, in numerous instances, the serious evils and unhappy consequences that would inevitably result to the eye, as well as mouth, from a total deficiency of this important fluid, if it were necessary. But the effects of some of the diseases to which we are subject in the eyes as well as mouth, afford such conclusive testimony in favour of the opinion I have advanced, that it would seem needless to pursue it any farther—such as those of the inflammatory kind, catarrhal affections, small-pox, and particularly the meazles; on which it is needless to comment, since

it must be admitted, by all who reflect on the nature of a severe attack of that complaint, that were it not for those organs we should present ourselves as an awful spectacle to every beholder. This opinion will, I think, be more strongly verified in the course of the following observations, which relate not only to the important use of lachrymal juices, in correcting the acrid secretions of the eye, but, also, to the like important use of the salivary juices, in often correcting the highly septic state of the mouth from morbid secretion.

It is not my intention, in the present instance, to enter into a pathological disquisition of the disease called the scurvy, as it relates either to the mouth or the system generally; suffice it to say, that the cases of scurvy in the mouth, as it is called, mostly complained of, are almost entirely local, and proceed from an accumulation of tartar about the teeth, irritating the gums, and rendering them often much diseased; and from causes producing acrid secretion, which lodge about the teeth, irritating the investing membranes, &c. The result of those are, swollen, flabby gums, surcharged with blackish, impure blood, and bleeding at the slightest touch; discharging, at times, a thin acrid fluid, which, with the other secretions of the mouth, are carried into the stomach, corroding and irritating, in some cases, the passage of the alimentary canal.

The number of persons subject to this complaint composes a very large proportion of society, at least in this country; and it is said by a late writer* that at least, three fifths of the inhabitants of the large cities in France are subject to this complaint of the mouth and gums. I shall at some future period resume this subject, and take some further notice of the frequency of this affection of the mouth, and of the cause of its prevalence. But since there is a striking similarity in this, and the more inveterate scurvy prevailing at sea, and on long voyages, as it respects acrid secretion in the mouth, I shall take more particular notice of the latter, in order to prove, or at least point out the use, necessity, and importance of the salivary juices in correcting acrid secretions.

* See Laforgue on the Diseases of the Mouth.

Whatever may constitute the cause of this dreadful disease, it is enough for the present purpose to know that some of its symptoms are, a melancholy dejection of spirits, a lassitude, a stiffness in the joints, and a great difficulty in breathing; the gums soon after begin to swell, itch, and bleed, having an unusual livid redness. All of which symptoms indicate, together with a yellowish complexion and gradually growing darker, a highly morbid or depraved state of the fluids. An universal dryness of the skin is a certain indication of a feverish habit, which prevails (except at the last stage) and during which the functions of the salivary glands are almost totally suspended; hence the distressing dryness of the mouth and throat. In this state the acrid secretions of the mouth are left to commit ravages in it, and about the teeth under the gums; the investing membrane of the teeth is thereby irritated and inflamed, the teeth become loose, and drop out; the gums become ulcerated and phagedenic, while the whole system is verging fast to dissolution.

Can acrid secretion be denied here, or the want of healthy salivary secretions, or some wholesome substitute to correct the acrimony, and attenuate the incrassated mucus in the mouth? At least I think not.

In the next place, as a farther illustration of the use and intention of the salivary juices, in correcting the acrid secretions of the mouth, I would call the attention to that state in which persons die by starvation or famine.

Here, we see displayed the effects of the one, through the deficiency of the other; and the tragic finale of death, the most lingering and most to be dreaded.

In this unhappy state, when the support of nature is cut off, or withheld, and the blood, from a deficiency of nourishment,* tending to an alkaline disposition, and at length approaching a putrid acrimony;† this acrid secretion manifests itself not only in the mouth, but in the thoracic and abdominal viscera, by the most violent

* See Haller's Physiology, page 314, or article 630.

† See Bells Anatomy, vol. 4, page 64.

pains, at least in the former, which terminate sometimes in actual madness.

In this situation the breath becomes fœtid, and the secretions of the mouth excoriate the gums and cheeks, irritating the investing membranes of the teeth, until they become loose, and drop out; while the seasonable aid of the salivary juices is cut off by a dreadful fever, suspending, as in almost all cases, the operations of the salivary glands, which otherwise would have corrected the acrimony, and lessened, in some degree, the miseries that are, on such an occasion, seated in the mouth.

(*To be continued.*)

An Essay *on the beneficial use of occasional* Fasting. *By* Dr. Cornelius C. Blatchly.

26th of 1st Month, 1818.

Abstinence from all nourishment was long a favourite remedy in plethoric diseases among our ancient practitioners of medicine. Patients were ordered to fast two or three days in fevers, dysentery, and other indispositions. This cheap, simple, and vulgar remedy, at length became unfashionable; other medicines of greater cost and mystery wholly eclipsed it; and fasting was heard of only among the temperate, healthy, and industrious part of the community.

The rule of fasting, in cases of indisposition from plethora and fullnes of habit, is this—"*Fast from all food till thou becomest hungry and well, or fast as long as it renders thee stronger and pleasanter;* but no longer."

Emetics and cathartics evacuate the stomach violently, and the intestines painfully; but fasting empties both without sickness, violence, or pain. Those debilitate, but this, in plethora, refreshes and invigorates the vital powers.

Venesection and sudorifics diminish the quantity of blood. Fasting, by preventing the hourly addition of chyle, does, in effect, the same thing.

By total, or even partial abstinence from aliment, the stomach and intestines have time to relieve themselves of

their burden of ingesta. The system, oppressed with fullness from checked perspiration, or from too full diet, has time to free itself from its depression, by the usual evacuations of urine, and other excretions.

It appears, page 319. vol. 10. of the Medical and Physical Journal, that the cause of appetite is the gastric fluid secreted into the stomach. If this secretion is checked or stopped by inflammatory plethora, sympathy with the constricted pores of the skin, or otherwise, the stomach will not desire food, and it would be wrong to eat; or acidities, dyspepsia, borborygmi, &c. must be the consequence. Hence gastric fluid is given with benefit in dyspepsia, and hence, food remains undigested in fever, for many days.

If cold creates fevers, as Dr. Moses Willard suggests, by producing torpor of the glandular system, which checks the secretions of the system, and plethora is produced, which will over-stimulate the heart and arteries, why should we stimulate the system still more by food;—which, if undigested for several days in fever, may ferment or putrify in the bowels, and poison and prostrate the system?

The secretions and excretions are often suppressed by the astringent properties of healthy diet, and stimulant drinks: these operate as anodynes, and cause dullness, chills, and stupefaction; which effects, from too much nutriment, are removed by a contrary mode of diet and regimen. In such cases, I have compared our bodies performing the offices of vitality to a grist mill in the action of grinding. If the mill be fed too copiously from the hopper, the stones become clogged, and burdened, and the motion of the mill is impeded. Cease to feed it for a while, and the stones soon clear themselves, and the wheels regain their accustomed velocity: there is no necessity of removing the impediment by art.

In phlegmasiæ, synochal fevers, catarrhs, dysentery, headach, &c. we evacuate the system by the violence of art, by venesection, emetics, cathartics, and diaphoretics. If these are good, why will not fasting, added to this list, be beneficial? In ordinary cases, it is preferable to any other remedy.

In my indispositions, I have fasted, from every kind of victuals, several days, and grew livelier and stronger; as soon as my appetite returned I could indulge it, without any farther indispostion.

Let us endeavour to give a reason for such pleasant effects. If too great labour oppresses and depresses the human body, will not the nervous system, and blood vessels, burdened by an increased plenitude, feel depressing consequences; such as languor, lassitude, chills, anxiety, aches, &c.? now, if the system thus burdened and weary, has no occasion to occupy a part of its forces in conducting the preparation of chyle by digestion, it will have them to help and animate it, and make it feel sprightly and vivacious.

The people in the United States of America eat more than is salutary. As their country produces an abundance of all kinds of aliment to indulge their appetites with, which they too frequently excite to a higher degree, by whetting it with spices, spirituous and fermented liquors, the prevalence of inflammatory and plethoric indispositions must naturally be the ultimate consequence.

We may perceive the gluttony of our days, by attending to the abstemious diet of the ancient monks, who lived on about fourteen or fifteen ounces of bread only, with pure water: this, their daily sustenance, would starve our full-fed citizens. The present Bedoweens in Arabia, eat still less in a day; their food consisting of six or seven dates in some butter-milk.

The celebrated nobleman of Italy, the abstemious Cornaro, has demonstrated, in himself, the excellent effects of an abstemious manner of living. At seventy years of age, by being over persuaded to increase his food to sixteen ounces of bread in a day, the consequence was dullness and languor, which ended with a pleuritic pain. This, he judged, arose from plethora; and this from the increase of nutriment, which induced him to fast from all kinds of nourishment; and by so doing, he was speedily cured.

Captain Riley, in his narrative, states, that many Arabs of the great desert of Zahara, live five centuries; their century is, however, but forty years. But their diet is

principally camel's milk, which is one of the blandest, mildest, and lightest kinds of sustenance.

Though abstemiousness is a duty, and a preservative of health; and fasting is one of the best remedies in indispositions attended with plethora, fullness, and inflammatory irritation or stupor; yet I would caution my readers against fasting, in an irritable or debilitated state of the system, produced by want of sufficiently nourishing aliment, or by excessive exertion, or by immoderate evacuations of any kind, or by protracted fevers, or by intemperance, and an abundant use of stimuli. To fast here, or use depletion, would be very injurious. It would increase the exhaustion, debility, and nervous irritability, pain, and spasm.

I might instance many cases of the utility of fasting on myself, and others, had I been particular enough to have noticed them. The following cases may serve as examples.

1. During the prevalence of dysentery, in the hot and dry summer of 1805, I was seized with a diarrhœa. I had seen the same turn into the state of dysenteries that season, and tried *fasting;* it cured it, without purge, or paregoric, or diaphoretic.

2. In the 11th month, exposure excited another attack of the same complaint. For four successive nights I was driven from my warm bed into the cold night air. That I might lie quiet, I took opiates and rum; constipation ensued, which was itself followed by an odontalgic affection of my jaws, and a soreness of all my muscles. My joints felt weary, my bones appeared to ache, and I apprehended an attack of fever, or rheumatism. Instead of bleeding, vomiting, purging, or sweating, I fasted several days, and was wholly relieved.

3. Billious remittents were prevalent in the same year. I was attacked with an unpleasant burning soreness of my stomach: I ate less, yet it continued. During the epidemic prevalency of the dysentery in the hot season, I improperly used a small portion of rum, as a preventive. This, I suppose, caused the burning pain of my stomach. I felt universally indisposed; I took a dram, and visited a patient about three fourths

of a mile off, on foot: at his house, my stomach nauseated, and I vomited four times, soaking my feet, and drinking warm water. By these means the burning, and the cramp of my stomach were alleviated: I returned home, and refrained from nourishment and liquors three days, and was well. But the burning pain of my stomach was followed, as in yellow fever, by a universal yellowness of the skin; and I verily believe, that I should have had an attack of the remittent fever, if I had continued drinking rum and eating victuals. Soreness of the stomach is one of the precursors of yellowness in the typhus icteroides; and when it is followed by indirect debility and effusion of blood, black vomit, and even gangrene, may be the consequence.

But it is unnecessary to fatigue you with examples of the benefical effects of a total abstinence from food, in the cure of indispositions; I shall only say, if I am attentive to my diet, I hardly need any medicine.

If I eat too little, I feel very hungry and weak before the next meal. If I eat too hearty, I do not feel hungry. If I eat heartily for some time, I grow dull and feel indisposed; sometimes I have head ach in the morning, especially if I lay long in bed, and I become languid and lazy. Such symptoms are signals for abstinence from food and from inactivity.

One winter I fasted and attended to my practice, in severely cold weather, for three days, before I found my system relieved from its indisposition.*

If fasting answers the same purpose as phlebotomy, pukes, purgatives, diuretics, diaphoretics, &c. and these medicines promote the secretions and excretions, and the action of the absorbent vessels, it is a remedy not to be contemned in dropsies from effusion and plethora. But let us now advert a little to facts, and astonishing instances of the duration of life, with little or no food at all.

* *Remarks on Case 2d and 1st.*—It may not be improper to remark, that the same causes that created a diarrhœa in case second, produced by metastatis, when improperly restrained by rum and opiates, an odontalgic affection of the face; and was likely, by a continuance of stimulants, to excite a fever or rheumatism, which might require venesection. By venesection I have frequently cured odontalgia; and in very severe cases I found emetics necessary to succeed it.

The similiarity of the causes and remedies of diseases, are greater than is generally supposed.

In 1805, I went with my brother Ebenezer, to see a sister of Abraham Speers in Essex County, New-Jersey. We were informed she had fasted about two weeks. Her stomach rejected every kind of food and drink, with pain, retching, and vomiting.

We found her sitting by the fire; her countenance was florid; her respiration and pulse quick; and she appeared like one that had been running or exercising with violence for a short time. She complained of sourness of her stomach, with soreness and pain.

We gave her two small anodynes of laudanum in burnt brandy; soon after we persuaded her to eat a cracker, and it sat well on the stomach. After a short time, she rose from her chair, and walked without assistance, into another room, and went into bed.

The laudanum, brandy, and nourishment in this way, invigorated her stomach, changed the morbid action of the lungs to the proper organ, and she soon recovered. Her complaint arose from trouble; her lover, we heard, had abandoned her.

In the forty-third article of the sixth volume of Medical Essays, mention is made of a handsome girl of sixteen years of age, who, on the sudden death of her father at the time of her menstruation, had an immoderate flowing with fainting and trembling fits. She was seized with a difficulty of swallowing, which increased to such a degree, that she could swallow no more; every attempt threw her into fits, which were repeated in a quarter or half an hour, and ended in the rigidity of her whole body. She neither ate nor drank for thirty-four days: at that time the spasm of the œsophagus, was overcome by a syphon introduced into her stomach. Having been costive during the thirty four days, she was now glystered. She still vomited up every thing, but an anti-hysteric mixture, cherries and strawberries, during three weeks; she then felt the spasm return in her throat, after evacuating *per alvum* about two pounds of blood in two days. She now continued fifty-four days without eating or drinking; and was often more violently affected with tetanus, than before. During both fasts she was not hungry, and lost but little of her fat.

In the next article follows an attested abstinence of Janet Young, which lasted fifty years. For the space of sixteen years, she voided fœces but once a year, and it was like one globulet of sheep's dung. This fast was induced by falling into the water, in winter, while she was menstruating the first time, and she never menstruated afterwards.

Jeremiah Minster, a respectable methodist minister, relates a fast of a year and nine days, which occured in a lad of Jeremiah Johnston, in New-Garden, Russel County, Virginia. In 1797 he was ill of a lingering sickness, which in three months deprived him of the use of his limbs. In this situation he remained three months longer, when his right leg was rigidly drawn up and fastened there; his tongue was drawn back and fastened there, like a dark lump in the fauces; and he lived fifty-three weeks and two days without eating or drinking; and then he was restored to health and activity, walking, eating, and declaring with raptures, that Jesus Christ appeared to him, and cured him miraculously.

When we have such facts, we desire to know the proximate cause of them. As I have seen no explanation, I offer the following. In diabetes mellitus, gallons of urine have been evacuated, more than the fluids received into the stomach. As cuticular, not cutaneous, absorption is denied by Klapp, Dangerfield, &c. this water, with its sugar, sufficient to nourish any body, must be derived from the atmosphere through the medium of the lungs, whose internal surface is estimated by Kiel, to be equal to the whole external surface of the body.

I conceive, therefore, that in fasts of the above nature, the energy and activity of the stomach and intestines, is translated to the lungs, where it exerts a morbid activity of the pulmonic absorbent vessels.

In the young woman I saw, the flush of her countenance, and her accelerated respiration, as if she had been under smart exercise, struck my attention before I had any theory. The lungs hold an important office in the functions of the system. Their office is said to be similar to that of the leaves of vegetables. The leaves

of the air-flower, epidendron, nasturtium* sempervivens, will absolutely nourish their several plants, so that they grow and thrive without their roots. Their leaves, therefore, do certainly absorb much nourishment; and it is supposed that the great leaves of pumpkins absorb more moisture and nourishment than the small roots of this vine. The office of the roots of plants are thought to be similar to that of the stomach and intestines of animals.

One of the most remarkable accounts of vegetable life being supported without roots is exhibited in the air flower of Cujo; it is a plant without root, and consists of a single shoot, resembling the stalk of a gilliflower, but with thicker and larger leaves, which feel like wood to the touch. Its native situation is an arid rock or dry tree, on which it entwines itself. Each stock or shoot has two or three white and transparent flowers, resembling the lily in size, shape, and fragrance: and the plant may be transported three hundred miles, and suspended on a nail, where it will bloom annually.†

If this be a correct view of these analogies, we may see, that though a man or woman must necessarily die, who is deprived of aliment; yet, if the activity of the pulmonic absorbents be morbidly increased, by a metastasis of the vital power from the stomach and bowels, a man or woman may live upon air. If the action of the kidneys, bowels, and digestion, continue when the office of the lungs is morbidly increased, diabetes will necessarily be produced.

The plant that grows without roots, must be in the shade, and the person that lives without food, must keep still in his room, and not labour.

Doctors Keil, Home, and Hales, are said to have ascertained, by experiments, that people have gained weight during their sleep. They went hungry to bed, were much fatigued by the preceding labour of the day, and gained from two to three ounces weight, by rest, respiration, and retained excretions. As exercise increases the excretions; so, contrarily, rest diminishes and stops them.

* *Tropolæum.* † See Supplement to Molina's History of Chili.

Thomas Lancaster, late of Fall's township, in the county of Bucks, Pennsylvania, a man of strict and undoubted veracity, told me, that in breaking a block of limestone, about two or three feet long, taken out of his quarry, he found in the centre of this solid block, a living red toad, sitting in a smooth red cavity, just large enough to contain it. How it came there, and how long it had resided in that dark and solid prison, were questions which had often puzzled his mind in vain to unravel.

Land tortoises have been kept for an astonishing time without food. Dr. Barton kept a rattle snake a year and a half without food. Leeches will live on water for an indefinite time. Gold-fish have grown double their size with nothing but distilled water. The rana pipiens has been kept for months on nothing but pure water. Salamanders decapitated by Gallois, have breathed and lived three or four months; but he was careful to behead them above the occipital foramen, so as not to cut off the par vagum, which causes respiration.

These are facts; and how are they to be accounted for, if we deny pulmonary and cuticular absorption?

Those who have experimented on pulmonary and cuticular absorption, were wrong in experimenting with substances which were not nutritious to the system, or which the lacteal absorbents would refuse to receive.

REVIEW.

AN ESSAY *on the* PREVAILING *or* YELLOW-FEVER, *of* 1817; *together with preliminary observations, and an inquiry into the causes which produced it; also, a brief view of the effect of certain poisons on the animal economy, compared with those of the specific gaseous poison of the yellow-fever. By* J. L. E. W. SHECUT, *practitioner of Physic, and member of the Literary and Philosophical Society of South-Carolina.* Charleston—Printed by Miller—Pamphlet, pp. 36. 8vo.

THE people of the United States had happily come at a period of long preservation from yellow fever, during fourteen years, and until last summer and fall of 1817; when that dreaded epidemic has renewed their alarm, and much interrupted commercial industry within the southern degrees of latitude, of New-Orleans, Beaufort, Savannah, and Charleston.

After a very dry spring, the rainy season commenced very late in June, and continued about six weeks, without any, or very little thunder and lightning. Innumerable insects infected the dwellings of the city, and ornamental vegetation, to a degree never observed in former years. The rain was frequently renewed during four months, and has been estimated at thirty-one and a half inches. At the end of July, the yellow-fever ushered in with great violence, and progressed until the twenty-eighth of September, when showers, with lightning and thunder, brought on an abatement of the epidemic. Dr. S. observes, that from experience, the early and continued rains during summer in that country, always determine a more extensively fatal epidemic, and also, that it commences its ravages in low, damp, and crowded situations, which are of new made-lands, as it happened last season, and gradually progressed throughout the

city. By the fourteenth of October, there happened a powerful concussion of thunder, which restored to the atmosphere an electrical equilibrium, and was attended with a rapid restoration of health. Mortality was in the proportion of one to twenty-two persons. It was more fatal, however, in the little town of Beaufort, where one sixth of the population died with the fever. The total number of deaths from yellow-fever, in Charleston, was exactly two hundred and sixty-eight. This event, we apprehend, will not contribute a little to the repetition or continuation of the quarantine restrictions, with which the governments of Europe have barricaded themselves against the western side of the world, as they have done long ago against the eastern. And no wonder, when the faculties of Paris, of London, and their sçavans of various description, have countenanced so many contradictory, unfounded, and erroneous opinions on a subject so distant from their observation, and so frequently misrepresented to them. (*Vid. Medical Repository, passim.*) We are, however, happy to remark, that the above narrative, uninfluenced by party spirit, by esprit de corps of colleges or academies, in a true style of home-bred experience, will not afford the least argument to the importers of pestilence, nor even give that ungenerous, but so ridiculous example of blasting another country, or another set of men, for engendering a poison, which eventually had a nearer and a domestic origin, for there is the motto of the work before us:

"Let it be remembered, that the yellow-fever, which is the subject of this essay, is that which is the proper Endemic of the City of Charleston."

Here, also, we must be permitted to remark on the merits of two opposite and contradictory doctrines. The one of the European faculties and boards of health, which trace plagues, yellow fever, &c. by contagion, to distant corners of the world, and shackle themselves by quarantine laws and restriction, under penalty of death or destruction of property. The other is the doctrine of a plain observer, citizen of a prosperous, although unhealthy town in North America, who inquires into the natural causes of ambient air, localities and exhala-

tions; acknowledges their pernicious effects on human life, illustrates them by ages of experience, instructs neighbours and strangers on the dangers that await them in his country, should they not be seasonably prepared to bear the influence of pestilential epidemics; he, nevertheless, confides on much prevention in the power and under the control of human wisdom. With all, he nor his community are afraid of bringing their country to disrepute, their commerce to ruin, nor their state to desertion, and they are comparatively more seldom, and during shorter periods, visited by the scourge of the climate, without suffering the distresses, inconveniences and grievous expenses of quarantine laws!

The author proceeds by showing that in nosology, the yellow-fever is the highest grade of the *typhus icterodes* of Cullen; that none of the medical faculty of his state, among whom the late Dr. David Ramsay had merited so much celebrity, did ever think that this disease was contagious or imported; that the popular opinion and the authorities of the country were and had been long convinced of the local and climacteric causes of this epidemic—its remote cause is in the atmospheric constitution, which, when vitiated by excessive heat and moisture, or by excessive heat and drought, is deprived of vital influence, and charged with a *gaseous poison*, which engenders the pestilence. There is also another pre-disposing cause of the disease in the human constitution, which is speedily called into action by the former. Both causes are separately well described; in attending to their import, with some exception, we feel it our duty to give farther outlines of the *new* doctrine, without any controverting remarks.

All occurrences of epidemic yellow-fever in Charleston, have been recorded as always preceded by *dry* or *moist* seasons. Both physical circumstances are equally adverse to electrical operation on the face of the earth, and in any of them, it is almost impossible to elicit a spark from an apparatus, and if any is obtained, it is so feeble as to be scarcely felt. Now the fluid thus wanting is precisely that which gives vitality to the air, and to all animated nature, its absence causes the endem-

ics of Carolina, with more or less violence, according to its long or shortened duration. This is not a vague conjecture, for so soon as thunder and lightning, cold or frost, have restored the electrical equilibrium, an immediate stop is providentially put to pestilence and disease. Electricity is the soul of nature, and pervades every particle of it. It is a *fifth element*, superior to those that form corporeal parts of matter, the great vivifying principle by which nature carries most of her operations.

The local situation of Carolina, with its contiguous states of Georgia, and a great body of low ground to the southwest, under an exposure of the rays of a scorching sun and excessive rains, affords an incessant exhalation, that produces the mentioned alterations of the atmospheric air, in the following grade and distinction. The first is, that of vegetable putrefaction, called *Marsh miasmata*, and is capable only of producing fevers of the intermitting kind, so frequent and endemic of Carolina; the other is connected with *animal putrefaction*, generates a poison constituting the highest grade of malignant and pestilential fevers, and is termed *gaseous poison*.

These causes may be modified throughout the country, and obtain a great degree of intensity in the cities, since beyond their limits the yellow fever is not known to extend its ravages epidemically; although various inferior or milder types of febrile disease are frequently infesting villages and the scattered plantations. The author offers afterwards, a very happy coincidence of many former constitutions of season with the malignant epidemics, which have resulted from them; and his historical statement since the year 1699, is strikingly satisfactory in pointing the first remote cause of the yellow-fever in *marsh miasmata* combined with an animal *gaseous poison*.

The second pre-disposing cause, is from a peculiar state of animal economy not yet assimilated or naturalized to the various modifications of an unhealthy climate, with the same habitual resistance which the natives have acquired, also, in debilitating excesses of passion, especially of fear and grief. The people of

warm climates, and much more those from tropical latitudes, have been prepared to bear frequent recurrences of deleterious exhalations floating in air, which can create in them nothing worse than a remitting fever, while strangers to their climate, and even their own children, before they are *assimilated* by age, receive fatal effects from such aerial poisons. The same as any human being can be dangerously affected by opium, by tobacco, and by ardent spirits, while the Turk is accustomed to the first, the chewer to the second, and the toper to the last.

We sincerely congratulate Dr. S. for assuming the theory of electricity, as operative, and connected with the formation of pestilential diseases. It is perhaps the best as yet, that could be thought of to conciliate with the laws of nature, the mysterious and sometimes rapid diffusion of malignant fevers in various seasons and countries, and under dry or moist constitutions of the atmosphere. We ask, indeed, the candid and truly philosophical mind, whether he can see more evidence in his hypothesis of the virulent contagion of an undefined molecule, than in that which would operate a total or partial departure from living bodies of some principle, which must certainly sustain vitality, motion, and the component parts of animal fluids? Does he not already know in nature, the evolution of hidden laws by which a plant is suddenly struck, fades, grows sapless, pines and withers away? We ask also, what other destructive mode of human life would not immediately take place, if the atmospheric pressure, the variations of which, are so sensibly felt at the approach of a storm, were or could be for a few instants suspended? Too much, therefore, remains unexplored in the laws of nature; nor has yet the science of physiology percurred all the spaces between life and death, and reached the first material springs of the first, that we should presume to control the latter with pride, but without wisdom, with presumption, and like the upstart prince of Macedonia, never able to untie, but violent enough to cut the gordian knot. We beg leave to offer some of our remarks on the subject of Galvanism, or rather on that evolution of electricity from conducting bodies, forming one of their

constituent parts and disengaged by chemical process, and which may decompose animated matter itself. We recollect indeed some principles and facts, which we have long conceived as eminently calculated to confirm the present doctrine.

The existence of animal electricity necessarily concurring to the phenomena of life has long ago been admitted by Galvani; he the first asserted that all animals must be endued with an inherent electricity. Valli, did more explicitly illustrate its cotemporary existence with life, for, said he, the nervous fluid was its vehicle; from it, it is wasted by muscular contractions, that are like discharges, and the muscles like Leyden jars.* Galvanism is also an agency on animated organs, but† to be defined like the medium between nerves and muscles. What wonder, exclaimed Eusebius Valli, again, if it is once discovered that the electrical fluid is of itself a powerful anti-sceptic, is a reacting power against animal putrefaction and dissolution of living bodies, until it is elicited or thrown off! But this is not all, the electrical fluid, says Wilkinson,‡ secreted by the small arteries that proceed to the nerves, is in every probability acted upon by poisonous and putrid miasmata, which are so powerful as to impair (attract) it, and suspend all animal functions, as it happens in the plague; but these are again restored by the return of electricity. We may now come to still more conclusive inferences if we advert to the comparative state of atmosphere during the prevalence of plagues in relation to men, brutes and plants.

It must be remembered that the author before us has established, by historical facts, that the endemic of his country had equally recurred under two opposite constitutions, one hot and dry, another hot and moist, with only the difference of more frequent returns of the first than of the latter.

Our readers also, must not lose sight of a great principle in electrical theory, to wit: positive and negative electricity, are not understood to be different principles, but merely a relative proportion of the same, which

* Vid. Valli. † P. Sue, vol. iii. page 137. ‡ Tom. ii. page 53.

like caloric are evolved by the laws of equilibrium, but with opposite action or re-action according to the presence of conducting or non-conducting bodies. Consequently, to all this we are to notice, at first, that when water is converted into vapours, its capacity for electricity is increased, but it is since known that the conducting powers of vapour is superior to that of water, as proved by Priestly, by Volta, and by Lavoisier; therefore, a warm and moist constitution of atmosphere has a tendency or a power to attract electricity from the human body, because, "any conducting substance in a *positive state of electricity* will act as a centre to the circumambient aërial principles, which recede in concentric circles."

2d. When the air is dry, the resistance to the electric fluid is in proportion to its density; as *action* and *reaction* are equal, so the electric fluid is justly to the air, and is accumulated to such a degree as to be equal to the resistance of the latter.* Again, a dry warm atmosphere may proportionably be very dense, and *re-act* the more against the electricity of the human system. We therefore conclude, that under certain atmospheric constitutions, vitiated by excessive heat and moisture, vice versa, by drought, there is a galvanic evolution of electricity from animated bodies forming one of their constituent parts, and is disengaged through conducting substances, by a chemical process of decomposition of the elements composing animated matter. We say, *galvanic influence or evolution*, when it requires a series of nerves and muscular organs.—(Hallé.) The same is represented to be excited by exercise, recruited by repose, and is always endangering human life; it promptly reduces muscular and tendinous parts to a gelatinous state, decomposes animal fluids, and Galvani adds, that animals on whom many experiments have been made and which have been consequently exhausted, sooner become putrid, than any other dead flesh and bodies.

*It is observed that the east *wind* or *sirocco*, which is very dry, and frequently blows over the southern band of Italy and Spain, produces a temporary liveliness, an energy on the human system. Women are more visibly affected by it, so much as to make it proverbial; after a few days, if the wind continues, debility and prostration take place.—Edit.

We might here enlarge the subject, with a great variety of experiments and facts, known already to the lovers of this branch of physical science, but not yet well understood or applied to the animal economy, short of the accidental death inflicted on living beings by a stroke of lightning, which neither wounds, burns, nor mutilates them. We only remark, that the *gaseous poison* or *animal putrid effluvium*, which our author supposes and admits as the efficient cause of pestilential disease, is not at all necessary in his own theory, and when present, is, at best, no more than an *aqueous gas*, a *putrid vapour*, operating as a powerful conductor of electricity; nor is that poison necessary to account for the terrible pestilential symptoms of gangrene, buboes, black vomit, jaundice or echimose, and prostration, for any one of them separately, or all collectively, are the effects of a putrid fermentation which has commenced before death. But even should there be a *gaseous poison*, to create pestilence, it would sooner reach the human constitution through the organs of respiration, than through those of digestion, by mixing with bile, gastric juices, and other fluids of the stomach and intestines, as stated by Dr. Shecut. Deadly coughs, sneezing, and still more fatal asphyxiation would be the forerunners of the yellow-fever; profuse hæmoptysis would, besides, prove the work of death in the lungs. This operation could not be guarded against, any more than it is possible to withhold respiration, while on the other hand, it is impossible to swallow a gas or an aerial vapour, unless it is taken in by deglutition as aggregated with other solid substances. We, in the same manner, must reject the effects of *gaseous poisons*, compared to those of arsenic. When received in the stomach in certain proportion, its operation is alike in every instance, during the first and second stage; while no two cases of the levantine plague or of the yellow-fever out of twenty, will run alike, exactly with the same degree of symptoms or duration of the disease; a great number of them have been noticed which did not show the least operation of any poisonous substance received into the stomach, until black matter is vomited, and this is sometimes retained without pain or anxiety. Another in-

consistent inference resulting from the operation of the *gaseous poison* of Dr. Shecut, it is, that when in its simple form and is denominated *marsh miasmata*, it has a quite different *modus operandi*, apparently through the nervous system; is productive of *intermitent fevers* only, and without any affection of the stomach.

We will conclude by a few remarks on the *characteristic* symptoms and the *curative indications* of the yellow-fever, as explained in the present work. We perfectly agree with the author, respecting the double character of *sthenic* and *asthenic* disease, which he has observed in the yellow-fever. We may add that we have seen it percurring all its stages, exclusively in one of them; sometimes during a whole season, and sometimes differently, at opposite situations of a large city, or in the same family. This singular difference of character, and which must lead to quite dissimilar modes of treatment, we have observed in other epidemics. We have particularly commented upon it, on the subject of the *winter-epidemic* of *peripneumonia notha* of former years. (Vid. vol. ii. N. S. page 1.) That it depends upon the general constitution of individuals, or some peculiarities of the season, was the opinion of Rush, who has correctly described different symptoms of the yellow-fever, at each succeeding recurrence. With him, we have remarked that the antiphlogistic mode of treatment, which had been so successful in former prevalences, required moderation in others, and must be rejected sometimes. Dr. Arejula and other eminent physicians of the faculty of Cadiz, have informed us that in 1801, not a single case in their afflicted city had been benefited by venesection; nay, that not one had recovered who had once been bled. On the other hand, Leonardus Botallus, a celebrated French physician and surgeon, of the fifteenth century, had witnessed so happy results from bleeding in the plague, that he did not hesitate to say: *Ego et uno verbo dicam, nullam pestem esse puto, cui venæsectio non possit esse salutaris, supra omnia remedia.* (Cap. 7. de curat. per venæs.) It is recorded also, that during the plague of Marseilles, bleeding proved highly beneficial in a neighbouring village, whilst it became very fatal in the city.

Various statements have been made of unexpected recoveries from the yellow-fever, in Philadelphia, by simple remedies, in 93, 97, and 99; they proved nothing but various degrees in intensity of disease, and its *sthenic* character at certain periods, when Rush so often and so usefully resorted to the lancet, and French physician to their ptisanes and cream of tartar; in subsequent epidemics the lancet has often proved fatal, and stimulating remedies have been well judged and highly beneficial. Thus has Dr. S. administered with success, emetics, calomel, *seneka-snake root*, spirits of lavender, and Cayenne pepper, because the fever of Charleston participated much of the *asthenic* character. The author says, "that he has rejected mercury (no doubt as an alterative) because he was determined never to tremble for the consequences resulting from its excessive use." It would be injudicious to reject the use of knives, because they can cut to the quick! nor should ever a physician prescribe an *excessive* use of mercury in any case of disease; for if a little of it cannot be operative, at least in raising the pulse, no other means for creating excitement in the circulation can safely be resorted to. On the dangers and proper use of quicksilver, we beg leave to refer our readers to page 30, of the present volume.

On the whole, we feel much indebted to the useful and ingenious essay of Dr. Shecut, who has shown himself an unprejudiced observer, and a good practitioner. We hope that his work may be circulated abroad, and assist frightened governments and authorities in the better direction of their quarantine restriction, than against the yellow-fever of Charleston, which has not reached any port on our coast, beyond the southern latitude where it has broke out and existed sometime, although no embargo has ever been laid in that considerable commercial port.

THE APHORISMS *of* HIPPOCRATES, *from the Latin version of* VEROOFD, *with a literal translation on the opposite page, and explanatory notes. By* ELIAS MARKS, M. D. &c. *New-York*, 1817—in 12mo. pp. 168.

More than two thousand two hundred years have elapsed since the existence of Hippocrates; yet his writings have all been preserved entire, through ages of revolution and subversion of empires. The precious legacy to mankind of his wisdom and precepts, has escaped the destructive hands of time, of devastating barbarian invaders and conquerors. The ancient manuscripts which had reached the 15th century, when the art of printing was discovered, must have been very numerous. In the middle age, they were, with other Greek and Roman works, incessantly renewed by monks, the only copyists of the time, who were possessed with the remaining archives and *records* of antiquity; many of them may be seen yet in the libraries of Paris, of L'Escurial, of Rome, and other places. The works of Hippocrates had been also translated into Latin, Arabic, and even into the Hebraic languages, by Jewish and Syrian Physicians of the Caliphs of Bagdad; and like the Holy Writ, which has had its apocryphæ, the venerable name of the Coan sage had often been usurped and affixed to spurious writings, until succeeding generations could detect the imposture. After the first and second bible, (the Latin version called the Vulgate,) had been printed at Mentz, the one in the year 1450, the other in the year 1462, the typographical establishments were rare, that could be formed sufficient and adequate to the printing of large works. The printers themselves must be the publishers, and not only acquainted with the ancient languages, but they were to be critics and perfect judges of ancient manuscripts, and entitled to a great degree of authority in arranging and correcting their editions, which they seldom dispensed also, of prefacing with the history of their toils and difficulties, and other interesting matter. Of this description was *Aldus Pius Romanus*, who commenced printing in Venice, in

the year 1494, and edited a considerable number of Greek and Latin works, especially of the writers of antiquity, of the fathers of the Church, &c. He died at the age of seventy years, in 1515; had no time to print the works of Hippocrates; but the use of his establishment having been left to his nephew Andreas de Azola, for the benefit of his children, the task was wholly accomplished in 1526: *Omnia Opera Hippocratis, Græca.* Venetiis, in fol. *Ex œdibus Aldi et Andreæ Asulani Soceri.* This first edition, remarkable by the beauty of its type, contained besides a privilege of the Pope, a preface of Azola and the life of the great father of medicine by Soranus.

Twenty years after, or in 1557, the printer of the king of France, Gulielmus Morelius, printed in two Greek and Latin versions, the books of the *Aphorismi*, the *Prognostica*, the *Prænotiones*, the *Prorhetica* or *Predictiones*, *de Insomniis* and the *Jusjurandum*, with a preface by *Silvius*, on the order or method of reading the works Hippocrates and Galenus.* Again, and in the year 1588, there came out in Venice, the famous Greek and Latin edition of all known books of ΙΠΠΟΚΡΑΤΟΥΣ *cum Scholiis et interpret. ab H. Mercuriali*, in fol. Finally, and before the close of this century, in the year 1595, the celebrated *Anucius Foez* or *Foesius*, gave his Greek and Latin edit. cum notis et interpret. Francofurti, in fol. We might say, that to him had belonged the honour of being the third editor in our list, of the writings of Hippocrates, for as early as 1560, he had published his Latin translation of the treatise on epidemics or popular distempers, and others successively. His early studies and persevering industry in accomplishing a complete Latin version of the whole collection, with comments and other accessory notes; his profound erudition, his eminent medical character and skill, would actually claim a particular encomium, had it not already been, by us, consigned in our pages. (Vol. 14, page 221.) We are to remark, also, that the two best editions of Hippocrates by Foesius, of Frankfort and

* A beautiful copy of this edition in 18mo. printed without figures or numbers of paragraphs, bearing some interlining and marginal hand writings, is in the possession of Dr. F. Pascalis.

of Geneva, are both in the library of the New-York Hospital. Here we interrupt this our history of the manuscripts, and ancient printed editions of Hippocrates, bearing in mind, that instead of a bibliographical dissertation, we had only undertaken to impress our readers with some of that enthusiasm or admiration of so many ages and extinct generations, which has saved from the wreck of time, the splendid poems of Homerus, the eloquent orations of Demosthenes, and the oracular writings of Hippocrates. Our task would be endless, were we to designate the number and variety of their editions in ancient or modern languages, with or without commentaries, complete or partial, with the additions from Galenus or Celsus, with *Œconomiæ* or tables, interpretations, and what not. We must, however, and with justice remark, that the new French school of medicine, has, like the old, shown an unabated zeal, an indefatigable industry, to restore all the treatises of the Coan sage, to their original integrity and purity; it has also, at different periods of time, much contributed to perfect both the original and Latin text, and many French translations. The laborious researches of *Dacier*, who was the best hellenist of his time, enabled him to complete a French translation in 1697, which has not, however, been much admired. *Gardeil* afterwards attained more perfection, and so have many succeeding translators from the Greek, into Latin, or in French, of various writings of Hippocrates, among whom we place Villebrune, Corai, Desmars, Delaveau, Aubry, Bosquillon, Larry, Pariset and the Chevalier de Mercy. The first, Lefebvre de Villebrune, merits particular notice, because he made up an original Greek text for himself, at least of the aphorisms, by recommencing a review or critical examination, of as many manuscripts and prints as he could procure; among them, he had several Hebraic and Arabic texts, by which he ascertained that there had been anciently, more correct copies of the original text, than those which had been adopted by Dioscorides and by Galenus himself. He compared, also, the oriental copies of Meletius and Damascius, physicians of the two Justinians. With these authorities, he expunged incoherent matters, corrected errors

and alterations, which had originated partly from marginal notes of various readers, or from ignorant copyists, the *notarii* the *vilia mancipia* of Seneca. But he exhorts, however, "not to conclude always on the spuriousness of an Hippocratic sentence from its apparent fallacy; ten years of practical observation," says he, "are necessary, perhaps, to meet with its exemplification, and then we are astonished to find it true. The life itself of men scarcely suffices to verify all principles, which Hippocrates had adopted from experience, and from records in the European and Asiatic temples which he had visited."

The aphorisms of Hippocrates, (an American translation of which has lately been offered to the public) is a sententious and concise exposition of the human economy, of its organic laws in relation to health and disease. It was devised by a consummate wisdom, dictated by a long experience. The facts and observations it embraces, are so fundamental, that they have proved an unerring guide, in all ages, in all countries; hence, all nations have, in common concert, proclaimed them as the oracular axioms of the healing art; the copies of this small work have been multiplied in various forms and languages; typographical enterprise alone, has so often encroached upon the best or most approved translations of learned critics, that it has become difficult to affix any known character to those that circulate the most, unless it is by comparing several versions. One of them we have just opened, which we are certain has been edited and corrected by Bosquillon, printed in the most spendid style, in Paris, 1807, and to which the ignorant but avaricious printer has added a paginal index of the *prognostics*, of no use in this volume, but to deceive in relation to additional matter. The Latin version of Veroofd, as adopted by Dr. Elias Marks for the translation before us, is ancient. We know an edition of such a name of Leyden, 1675, and has not consequently received later improvements; as far as we could judge we have nevertheless found its text, with a few exceptions, similar to those we think to be correct.

He is pleased to inform us, that he has seen but one French version, by *Pariset*, 1816! and that he did not obtain the English of *Sprengell*, until he had nearly completed his labours! His labours could not therefore receive any benefit from comparison with any vernacular translation, whether French, English, Spanish, or Italian. Of these, there exist many from very correct translators and excellent critics. Dr. Marks tells us, that he found in the French version much *paraphrase* and *tournure de phrase*, not correspondent with the *original text;* that, were it not for these objections, his attempt would be supererogatory. What! would he then have translated the aphorisms from the French into English? But we were going to ask, why he did not translate from the *original Greek text*, if he had been able to detect material errors in the French version? Why did he prefer the Latin, which, at best, is but an intermediary vehicle of the thoughts of Hippocrates? On the other hand, supposing that the French had not been *objectionable*, why would his attempt of an *English* translation become supererogatory? This statement we really cannot comprehend. What aggravates it still more, in point of inconsistency, is, that he should have preferred Veroofd's Latin version, as adopted by Pariset, notwithstanding the defects of his French translation, ascertained by subjoining the original text in the margin, and who, consequently, should never have been his guide in the choice of the best Latin text! Precipitancy, and confidence in our own talents, are not proper substitutes for mature and practical criticism, in one of the most delicate tasks, for the execution of which, beside a perfect knowledge of classical and modern languages, a practical acquaintance with ancient models, and improved modern versions, above all, was requisite. In spite of all these discouraging preliminaries, we were disposed impartially to examine the new English translation, but we have been, in a measure, preceded by a more diligent examiner in the Monthly Magazine, Vol. ii. No. 6. That he has stamped this new production with material defects of misconception and perversion of the orginal sense, in too many instances, we the more reluctantly acknowledge, that we could not have ex-

pected so complete a failure from the Censor of Pariset, of Villebrune, of Heurnius and of Sprengell. Still we thought it our duty to rescue both the work and the author, from the heavy reproach of a literary bungling attached to his *labours* by the above reviewer; but we apprehend it is but little that we can say against the one, and in favour of the other.

1. Aphor. 6. Sect. 1. On the words, *ad extremos morbos, extrema remedia exquisité optima*, the reviewer finds fault with the translation, "the greater the evil—the more vigorous the remedy." We agree with him that this is an *inelegant* version, but it does not fall short of the meaning of the author; nor do we believe that the latter part of the original text could ever be supposed to embrace gentle, or even *nice* remedies, provided they were *appropriate!* The object of the proposition which has become proverbial is to do away all fears and pretexts arising from the violent or uncertain nature of the means resorted to, when it is a question to save the life of a fellow creature, which cannot comport with the *gentleness, nicety*, or appropriate nature of a remedy. Instead of the equivocal and prolix translation proposed by the reviewer: *in extreme diseases, those remedies are the most appropriate which are nicely adapted to the extremity of the disease;* we would offer this—*in extreme diseases, violent remedies are certainly preferable and most effectual.* In the orginal the adverb ακριβως, *exquisité*, could not, we imagine, be better expressed by induction than by the word *certainly.*

2. Aphor. 12. Sect. 1. *Quin etiam et per ea, que mox apparent, eadem indicantur, velut in pleuriticis sputum, &c.* Here two palpable errors are said to exist: The one is to give *saliva* for *sputum* in pleurisy, while it means *expectorated matter*—this is self evident! and is thus translated in many texts we have examined; the other is the expression of *present symptoms* from the words *ea que mox apparent.* The critic observes, that these words, "just mean the reverse of present symptoms:" in what sense he does not tell; for, the *reverse* might be *absent symptoms*, or *past symptoms*, or *future symptoms*, and in any way, this part of the aphorism would be absurd; but the sequel best shows that it is not a question

here of *present symptoms*, nor of *the reverse*. If purulent expectoration takes place at the commencement of the disease, this will be short; if at a later period, it will be more protracted—*ea que mox apparent* relates, therefore, to appearances at certain stages of the pleurisy or other diseases, and should be translated, and *according to the symptoms which will be formed, &c.*

3. Aphor. 46. Sect. 2. The reviewer proposes to improve the following *feeble* translation: *Duobus doloribus simul obortis, non in eodem loco, vehementior obscurat alterum*: "two painful sensations arising," and says, "*when two irritations arise, &c.*" Instead of improving the version, he does here introduce a very material error. A *pain* is, no doubt, an irritation, but this may exist without *pain* in old wounds, ulcers, and fractures, in the liver, kidneys, and other diseased viscera. Nay, it is by a constant *irritation* produced by the blood on the heart, that its powerful contractions are produced, without pain! Hence, it would be absurd to suppose that an organic or nervous *irritation* which could slowly exhaust vitality and undermine the constitution, might be diminished or removed by another more powerful, with or without pain. The phenomenon here described, requires the activity of the sentient powers, which in sound physiology are not the attribute of *irritability* nor of *irritation*, and which in all animated nature is so often found to exist without any nervous agency.

4. Aphor. 24. Sect. 3. Pavores is translated "terrors;" it ought to be *tremors*. We beg leave again to differ. The original word is φόβοι the plural of φόβος. The rejection of the word *tremor* in this case appears the more judicious, since *trembling* is not an ordinary state nor symptom observed in children whose diseases are enumerated in this aphorism, and the word τρόμοι or τρόμος is not found in any text examined; although the English translator (Sprengell) has committed the same error, and has made use of the word *tremblings*. Was the critic an experienced practitioner of physic, (we sincerely hope he may be,) he would have frequently observed these *terrors* or that morbid state of children which retraces to their mind all that is bad, all that

they dislike, especially when roused from sleeping or dreaming. If more advanced, their notion of any terrific object is more alive, and throws them in so distressing a state of terror, that a mother, a nurse, or a physician, can scarcely assuage it, until a proper management and operative remedies have assisted the nervous system, and expelled thereby illusory spectres or images present to the imagination.

5. Aphor. 31. Sect. 3. In this famous article describing the diseases of old age, the reviewer notices three incorrections. But he and the translator are half and half, each wrong. It was, indeed, a gross misconception, that of transforming *articulorum dolores*, into "painful articulations," *of the joints;* he might as well have said, *painful joints of the articulations.* Often we have perceived that propensity of Dr. M. to confound the *subject* with the *attribute*, and vice versa. With this kind of logic we might call *parturiency*, "a painful uterus;" *gravel or the stone*, "a painful bladder;" *a wound or a contusion of tendons*, "a spasmodic affection of the jaws," &c. The critic, however, leans to the same inaccuracy by giving his own translation of *pains of the joints*, instead of *pains in the joints.* For, every body knows that these pains, the appendage of old age, gout, rheumatism, anthritic or lymphatic swellings, stiffness or inability of the parts, and what not! are not, precisely, a disease of the whole joint. They occur by periodical paroxysms; they are subject to accidental colds, and other indispositions; and owing to their mobility from limb to limb, from joint to joint, they are proverbial as a safeguard against worst consequences. Thus no imminent danger is ever apprehended for an old man subject to *pains in the joints or in the limbs.*

6. The second alteration of the original meaning is, according to the reviewer, that of *catarrhal affections* for *catarrhi tussiculosi.* So far, so good; as this kind of catarrh should not be confounded with any other catarrhal affection of the nostrils, of the fauces and pharynx;* which, of course, are not attended with cough. But why does not the critic give us a more significant

* Vide Du Catarrhe uterin, par Blattin.

name than that of *catarrhus senilis*? This is any thing or nothing; for the *cough*, the *hacking* of old age, is here the principal attribute designated by Hippocrates, for which old Sprengell had substituted *catarrhs causing coughs*. As a catarrh is in our days mostly meant to run as a kind of acute disease attended with fever, and as the venerable author, no doubt, represented this, among others, as a permanent affection, perhaps we would do well to say "*that aged people are subject to chronic coughs, &c.* as for the last metamorphosis in this aphorism of *pruritus* into *itch*, it is an unpardonable liberty, and as offensive in the English language, as if, during summer, we would accuse any body teased by *prickly heat*, to have that *contagious* disease, which Hippocrates would not certainly, have attributed to old age, while it is so easily propagated among young persons. Why did not the words, *itchings*, *prurience*, *pruriginous*, *prurient*, offer themselves to the attention of the translator?

These are the few *exceptions* we have thought our duty to mark among the numerous articles of *defects or errors* already detected by the reviewer in this new English translation, without mentioning those that have occurred to ourselves, the unpleasant enumeration of which we will not undertake. All of them we have minutely and attentively compared with many of the best ancient and modern versions, and, in some cases, with the original text and corresponding authorities of the father of physic, so as to justify a declaration of our unqualified censure. A very exceptionable remark of the translator we cannot silently pass over. It is that, precisely, which he leaves to any body, as "un morceau" *for the critic*, on the Aphorism 41. Sect. v. Nothing in it, we should say, could have outstretched the bounds of his understanding, nor of his credibility. The simple and trivial mode here recommended to detect whether or not impregnation has taken place, was approved, and successfully tried, by his predecessor in translation Dr. Sprengell. The result is conformable to the known great irritability of the stomach of women in the first period of gestation, as frequent pukings prove, and to their aversion for ordinary food, as further stated in Aphor.

61. Sect. 5. The scepticism of the proudest critic would not have been roused in a matter so simple as this. The Greeks, no doubt, made their mead and hydromel with the excellent honey of the Mount Hymettus, celebrated and sanctified by the temple of Jupiter. To it, and to the bees of that sacred spot, they might attribute some peculiar virtue or power, to be used in the present instance. If so, who would even venture against Hippocrates; the *quandoque bonus dormitat Homerus?* We will now take leave of the translator with a few observations. His industry and talents *may* no doubt be adequate to the task he has assumed, and to the revision of which we take the liberty of recalling his attention. The writings of the venerable father of medicine have long been the property of innumerable generations, and none of us have the right of deforming or defacing a thought, nor a single word of them; not even on the score of private opinion! We have not been able to discover, in this city, any other English translation of the Aphorisms than that of Sprengell; with a few exceptions, it is, no doubt, one of the best among vernacular languages, and rendered authoritative by numerous notes of the *œconomiæ* and concordance with all other writings of Hippocrates and of his commentators; but it is too old; its idiom is prolix and obsolete, and cannot contain the many elucidations or corrections which the succeeding researches of Villebrune and others have introduced. An American vernacular and good translation, is therefore desirable. It will always command the applause and patronage of all the enlightened friends of true learning. Our rising medical generations should all be as familiar with Hippocratic maxims and sentences, as a poet with his *Homer* and *Virgil;* a geographer with *Ptolemy;* an architect with *Vitruvius;* and a mathematician with *Euclid* and *Archimedes.* With these motives, therefore, and with an honest regard to public utility, and to professional dignity, we hope that Dr. M. may speedily and successfully accomplish the task to which his first labours and industry have given him already an exclusive claim.

The critic before us has properly remarked that the venerable sage of Cos had the first imparted to medi-

cine, the form and consistence of science. He has also assimilated his *inductive* method of reasoning, to that, by which Bacon acquired afterwards an imperishable glory.* This is well enough, but insufficient, we apprehend, to designate the difference of both *inductive* methods, in their application and results. That of Bacon was *ab noto ad ignotum*, and in its progress through mathematical, physical and moral principles, was to put mankind in possession of useful knowledge, unveil hidden treasures in the mysteries of nature, and form and constitute all sciences upon a solid foundation! That of Hippocrates was not so extensive in its scope, but more immediately important and interesting, because the *existence* of man was its object. His *inductive* progresses were also more difficult, as they must be developed *ab ignoto ad ignotum*, that is, from the hidden causes of health and diseases to the still more mysterious cure of diseases and preservation of life. In this barren field of doubts and conjectures, that genius was certainly powerful, expansive, and luminous, which could systematise the *philosophy of man, in relation to health and disease*, with a view to protect his existence in the enjoyment of the first, and against the ravages of the latter.

To obtain such a glorious result Hippocrates defined, as a first step, all necessary relations and dependencies of man with the ambient elements and the great phænomena.† He afterwards studied the nature of man himself from his birth to his ultimate dissolution—his generation, his functions, his wants, and his physical powers.‡ From this immense collection of data, he might as well attempt to trace the laws of the animal economy, either in a general point of view, or in the series of each organic function.§ Now, there appeared to him necessary to *create* an uniform and inexhaustible principle of life, beside the material nutriment, *Cibus et Potius.*‖ No chemist could with his oxygene, develop more truths, than he did, on the universal plenitude of the *spiritus alimentum.*

* Rees's Cycloped. art. Medic.
† *De aëre Locis et aquis.* ‡ Vid. de natura Hominis, &c.
§ Vid. de Carnibus, de Glandulis, de Corde, de Ossium natura, &c.
‖ *De flatibus, De alimento.*

There remained the task of analyzing the laws of the animal economy in relation to their great dependencies, of high and ambient agencies to define their invariable operation, or suspension; their alterations by offending, or deadly causes. He did need but to embrace the history of all ages, sexes, and the phænomena of the human fabric; among those indications, the history of human diseases placed itself under his domineering wisdom, connected with their causes; it did thus emerge from clouds of ignorance, from the empire of superstition and of evil geniuses. Remedies, therefore, must rest at the disposal of an experienced observer; they must be inferred from the known nature of external and internal *agencies*; they may be rendered recommendable by the pratical comparison of their virtual properties; human wisdom of all past ages, divine providence may offer them in the records of its temples. There wanted nothing for the perfection of a code which God alone seemed to have dictated to the wisest and the best of men, than to inspire its author with all the aphoristic maxims and medical statutes, which would render the *philosophy of man, in relation to health and disease*, more familiar to mankind; this was done and accomplished for the benefit of all ages and human creation, nor could any of the speculative labours of the greatest physician afterwards, abolish or invalidate his doctrines, exhibit or demonstrate better rules and greater truths. But it has been objected that the splendid superstructure of the Hippocratic philosophy offered more elevation to the mind than reality for practical utility, because among his external agencies, he had admitted the planetary system, the motion and influence of heavenly bodies, which, rolling during so many ages, over different climates and latitudes, have never fortuitously, or otherwise, by good or malignant influence, interrupted the re-production of man, the universality of disease, nor protracted his existence beyond its marked limits. All *inductions* of astrology have in his way promoted superstitious and fallacious applications, and have been universally rejected.

We answer, that the planetary agencies and influence have been construed into complicated inferences, not on-

ly on the physical nature of man, but on his own acts and will, with which the philosophy of Hippocrates has certainly nothing to do. Let us hear what he says himself on that subject, in his treatise *de Carnibus*. *De Cœlestibus autem rebus et in sublimi positis nihil dicere attinet, nisi quantum conferunt ad demonstrandum de homine et de reliquis animalibus.* If nothing therefore is required but what is known from the planetary influence, to have a direct effect upon health and disease, why should the superstitious or empty results of astrology be imputed to Hippocrates? On the other hand, have not the heavenly bodies, with the heat they create, the attraction they exercise, the gravity of the atmosphere they diminish, the meteors, vapours and clouds, expansion of matter, winds and electricity they form and agitate, promote or enfeeble; have they not contributed to the formation of different species of man? such as the *Tartar* and *Indian*, the *Malay* and the *African*, the *European* and the *Arab*, who differ so much in colour and stature, by propensities, duration of life, &c. Are there any two of these, or other species, who could be exposed to the change of the planetary aspect or influence, to which they have been accustomed, without material impression on their organic economy, and subsequent alteration or disease? Hippocrates had laid down principles which have been extended beyond their proper application, or have been totally neglected, and afterwards, replaced by various systems. The clue of his philosophy, the series of facts which might better demonstrate its extensive range, has perhaps been lost, until it is assembled from his too neglected writings; hence the objections against his sublime doctrine.

It is more than probable that the first editors and commentators of Hipprocrates, when collectling his numerous writings, had no directing data for their arrangement in relation and conformity to the development of his philosophy. Perhaps they adopted no better order than that of the dates of the manuscripts they could find in a more or less preserved state. The annexed list of these writings which, we presume, will be interesting to many of our readers, we have taken from the ancient collection of Foesius whose entire life was dedi-

cated to form an entire edition, and Latin translation of all the treatises and books of the father of Physic. There is some order in his arrangement, yet it does not correspond perfectly to the method which our view of the subject might suggest, and we would hardly undertake it, suspecting that many titles are in a great measure, as anciently found, misapplied or partial.

We have presented in italic type, the titles of those Hippocratic writings which to our knowledge, have been edited in detached volumes, and translated into some of the modern languages.

SECTIO I.

Hippocratis *Jusjurandum.*
Hippocratis Lex.
De arte.
De Priscâ Medicinâ.
De Decente habitu aut decoro.
Præceptiones.

SECTIO II.

Prænotiones.
De Humoribus.
De Judicationibus.
De Diebus Judicatoriis.
Prædictorum, lib. ii.
Coacæ Prænotiones.

SECTIO III.

De Natura Hominis.
De Genituræ.
De Naturâ Pueri.
De Carnibus.
De Septimestri Partu.
De Octimestri Partu.
De Superfœtatione.
De Corde.
De Glandulis.
De Ossium naturâ.
De Aëre Locis et Aquis.
De Flatibus.
De Morbo Sacro.

SECTIO IV.

De Salubri Victûs Ratione.
De Victûs Ratione.
De Insomniis.
De Alimento.
De Victûs Ratione in Morbis Acutis.
De Locis in Homine.
De Liquidorum usu.

SECTIO V.

De Morbis, lib. iv.
De Affectionibus.
De Internis Affectionibus.
De his quæ ad Virginem Spectant.
De Naturâ Muliebri.
De his quæ Uterum Non Gerunt.
De Videndi Acie.

SECT. VI.

Medicinæ Officina.
De Fracturis.
De Articulis.
Vectiarium, hoc est de Ossium per Mollitionem Impellendorum Ratione.
De Ulceribus.
De Fistulis.
De Hæmorrhoidibus.
De Fœtûs in Utero Mortui Excetione.
De Corporum Resectione.

SECT. VII.

De Morbis Populariter Grassantibus, lib. vii.
Aphorismorum lib. i.sec.vi.

SECT. VIII.

Epistolæ.
Athenæ Senatûs-Consultum.
Oratio ad Aram.
Thessali Legati Oratio.
Genus et vita Hippocratis secundum Soranum.
De Purgatoriis Remediis.
De Structurâ Hominis.

AN *Inaugural Dissertation on* INFANTICIDE, *by* JOHN B. BECK, A. M. New-York, J. SEYMOUR, 1817, pp. 39.

THE author of the above dissertation informs us, that, *in Great Britain*, " with the exception of Dr. Duncan's lectures on legal medicine, delivered in Edinburgh, it has been hitherto wholly excluded from their courses of medical instruction;" and that in the United States there have been but two *public* teachers appointed to this task. Indeed, medical jurisprudence is so intimately connected with the different departments of medicine, that, in most countries, it has been thought scarcely necessary to devote to it a particular professorship. Botanical and chemical lecturers would not do justice to their classes were they to omit the consideration of poisons. And without a particular notice of the *morbid*, as well as the *natural* appearances of the different organs, an anatomical course would be very imperfect.

It is the province of the practical lecturers to describe the peculiar effects of the various agents, to whose action the living system is subjected, whether accidental or designed. Each one of the above courses ought to

be deemed defective without an attentive consideration of their respective portions constituting forensic medicine.

It has, therefore, been supposed by some, that a distinct professorship, for the purpose of teaching medical jurisprudence, is an incumbrance upon a medical school, in as much as it consumes the time of the student, and increases the expense of a collegiate course.

The subjects treated of must, moreover, be stripped, in a great measure, of their natural and scientific relations, and be thus rendered incapable of making a lasting impression upon the mind of the pupil. Such a professor is, *in fact*, a mere *echo* of his colleagues, which serves only to confuse and fatigue the *attention of the* hearer by its *repetitions*.

The essay before us is divided into three chapters. In the first the *history of infanticide* is *detailed*. The second treats of its *medico-legal history* : and under the third head *are considered* the *legal* and *humane* means resorted to for the purposes of checking its prevalence.

This division *is somewhat faulty*. Two distinct objects are combined in one chapter, and the same topic is discussed under different heads. The opinions of physiologists concerning the period of animation ; the signs of abortion ; and the appearances of the infant after parturition ought, instead of being confounded with legal matter, to have constituted a separate chapter. They are *distinct* subjects of investigation, and cannot, therefore, be blended without producing confusion.

In the first chapter, Dr. Beck gives us a concise, though full account of this crime. He here displays an industry of research highly creditable to a young gentleman in his first essay.

When considering the *medico legal history* of infanticide, great credit is justly given to *French and German physicians*, (*particularly to the former*,) who have exhibited a minuteness of inquiry unequalled by those of any other nation.

Under this head, however, the writer is too sanguine in his declarations of the infallibility of the tests of infanticide, (*drawn from the inspection of the lungs.*) We

are not, as yet, in possession of a *general* and *decisive* criterion of this crime.

The determination of a jury should, therefore, be made up, not from any *particular* phenomenon, but from a thorough consideration of *every* circumstance developed during the trial.

The statements concerning Foundling Hospitals, drawn from various sources, by Dr. Beck, prove that the benevolent intentions of their institutors have *not* been *followed by such salutary effects as their humanity suggested.* This, however, has arisen not so much from a defect in the design as from badness in the execution. Our opinion is *strikingly* confirmed by the comparative results furnished by the nursery of the alms-house when established in this city, and after its removal to Bellevue. In the former situation the number of deaths bore a very melancholy proportion; but since the children have enjoyed the pure air of the country, combined with superior attention to cleanliness, the mortality has been much diminished.

It is also urged by the author, that Foundling Hospitals encourage incontinence, discountenance marriage, &c. and that, therefore, they are not of decided utility. Similar objections, *however*, have been brought, and with equal propriety, against dispensaries, alms houses, &c. They are said to be the fruitful parents of idleness, improvidence, and intemperance among the lower orders. This, to a certain extent, is undoubtedly true. But surely the experience of centuries has incontestably proved their general usefulness to society.

The style of Dr. Beck is plain and unadorned. He neither perplexes us by obscurity, nor does he dazzle the mind by enlisting the *powers* of the *imagination* under the *banner* of *reason.*

The following extract is equally characterised by perspicuity and precision. It may serve as a favourable specimen of our author's manner of writing. "In the early months of pregnancy, it is extremely difficult to ascertain whether an abortion has taken place, or not. The fœtus has scarcely had time to make those firm attachments which afterwards unite it to the womb; nor has it attained to a sufficient size to effect those general

changes in the constitution of the mother; nor those local alterations from the distention of the uterus and abdomen, which are afterwards produced. Its separation is, therefore, unattended by violence, and leaves but faint, if any traces of its previous existence."

Upon the whole, Dr. Beck has done as much as could reasonably be expected in an inaugural essay. He has *collected* a great deal of matter from the works of ancient and modern authors, and interspersed them occasionally with pertinent observations.

D. T.

Medical & Surgical Correspondence.

Douglas's Experiments *and* Operations *on the* Liver, *and other* Secretory Glands *of the* Body.

Some interesting considerations on the Bile and the organ which prepares it, were published by Luke Douglas as an Inaugural Dissertation for the degree of M. D. in the University of New-York.

He was led to the subject of this treatise by the following paragraph of Haller, expressed after delivering his physiological opinion on the functions of the liver. It seemed to Dr. H. that after exhausting his genius in endeavouring to assign functions to the fœtal liver, commensurate with its volume and apparent importance, he concludes as follows: "When I reflect that there is no bile required in the fœtus, there being no food received; when again I see that the liver is of great size in the fœtus, and not small like the lungs, which are destined to an operation in the economy after birth; I cannot but suspect that it has some other use in the fœtus than the secretion of bile." Having frequent opportunities, shortly after noticing the above paragraph, of witnessing the immense comparative size of the fœtal liver, and the peculiarity of its circulation, he was struck with the idea that the present functions assigned to that organ, (if any function has ever been assigned to it,) were too degraded for its magnitude; and this idea being strengthened in its application to the laws of nature, he was prompted to an experimental inquiry into the function of the fœtal liver, supposing that it had a peculiar one.

His first experiment was directed to ascertain whether the fœtal liver secreted any fluid by the common duct into the intestinal canal. This was satisfactorily done by examining a fœtal dog, while it was attached to the mother by the umbilical cord. This experiment enabled him to ascertain, not only that there was a secretion, but its quantity, by analogy, which far exceeded

his expectations, and its quality to be bland and sweetish.

The mesenteric absorbents of another fœtal animal, especially those of the duodenum and upper part of the jejunum were observed to be filled with white chyle, manifestly absorbed from the intestines; for the stomach of the same animal was comparatively very small and in a flaccid state, having no appearance of its ever having contained any article of nourishment; the fauces and œsophagus, at the same time, seemed to be completely obstructed by a muco-gelatinous substance, which forbade even the presumption of there having been any nourishment conveyed by the mouth into the stomach during the fœtal state, even if the doctrine (viz. that the fœtus may receive nourishment from the liquor *amnii* received by the mouth) should find a single supporter.

These experiments suggested to him the function assigned to the fœtal liver in his essay; viz. that it served the purpose of elaborating the already oxigenated blood received from the placenta of the mother into bland fœtal nourishment. But as a portion of this placental blood does not enter immediately into the liver, but into the general circulation through the ductus venosus, a part of this unrefined blood would go immediately to the depending brain, was it not for the thymus gland, which the author considers as having the function of refining that portion of the blood going to the brain. Another portion of this unrefined blood escapes by the ductus arteriosus into the descending aorta (or ascending aorta of the fœtus) to nourish the parts below the heart, this portion he considers to be elaborated by the capsulæ renales, for the spleen and kidney lie dormant in the fœtal state; indeed, he suspects that all glands, having no excretory ducts, except the brain, both in the fœtus and after birth are employed in refining or elaborating the blood.

These discoveries respecting the fœtal liver induced him to make some experiments on the liver after birth, for he was led to strongly suspect that the liver both in the fœtus and adult performed a similar function. His first experiment on the adult liver was made to ascertain the quantity of bile secreted in a given time. The duodenum of

a living dog was opened, and a tube, with a small bladder appended to one end of it, was inserted into the common duct; this experiment being repeated several times, it enabled him to ascertain by analogy, that twenty-nine ounces of bile were secreted from the liver of a common sized man in twenty-four hours; the comparison was made by the weight of each animal, by the weight of each liver, and by the capacity of vascularity. Various experiments also proved that the fœcal discharge per anum did in no instance exceed five ounces in twenty-four hours. It appears, therefore, from hence, that there is a biliary excess every day in the intestines of a man, over the discharge per anum, of twenty-four ounces. He was next led to inquire what becomes of this excess of bile: animals were kept starving a sufficient time to have digested and assimilated all the food taken by the mouth; the chylopoietic viscera were then examined; the absorbents of the mesentery were found to be filled with chyle; bile was found flowing into the intestines in an uninterrupted current, but this bile was not near so bitter, green, or acrid, as the bile contained then in the gall bladder, which was exceedingly distended. These phenomena suggested not only the fact that this excess of bile was absorbed by the lacteals, but that there manifestly existed two kinds of bile, viz. hepatick and cystick, differing materially from one another. By pressing on the gall bladder, acrid, green, and bitter bile could be easily pressed out, but by pressing the bile from the common duct only, a more pellucid, less acrid, bitter and green bile was the result. He found also that the contents of the gall bladder could be very readily pressed out, but nothing could be pressed into it from the common duct. Before this animal died, Dr. D. pressed the bile entirely out of the gall bladder, and tried to inject water into it through the medium of the common duct, but did not succeed. This induced him to suspect that the gall bladder did not fill from the regurgitation of hepatic bile; this presumption was strengthened, if not proved, by the following experiment, added to previous evidence: The contents of the gall bladder of a living animal were squeezed entirely out, and a ligature applied to the common duct,

close to the intestine; several hours after, the parts were examined; the common duct was greatly distended, but no bile in the gall bladder. These facts, together with the peculiar valvular lymphatic-like structure of the cystic duct, and its very acute termination in the common duct, suggested to him the idea that the cystic duct was an absorbent; and that the gall bladder had the function of selecting from the hepatic bile its bitter, green, resinous, and acrid properties, holding them in reserve until their cathartic influence was called for in the intestinal canal.

He also made several experiments on the pancreas, by inserting tubes into its duct, in order to collect its fluid, but could not succeed in one instance. It therefore formed the opinion that the presence of chyme in the duodenum was necessary to draw forth this fluid, and that the function of the pancreas was analogous to the salivary glands.

With respect to the spleen and thyroid gland after birth, we refer our readers to the few remarks on those organs in the essay before mentioned.

Since writing his inaugural treatise, Dr. D. has made several other experiments on the liver, which corroborate the above doctrine. We should be glad to know more particularly what they are; and, therefore, invite the ingenious author to submit them to the public eye.

An account of a MALIGNANT FEVER, *sporadically formed, in Falmouth, County of Cumberland, District of Maine. By* JEREMIAH BARKER, F. M. M. S.

On Monday, the 9th of October, 1809, a number of neat cattle were driven from Pearson field to Falmouth, distance 40 miles; the mercury in Fahren. Therm. 75 degrees. Three of these cattle were butchered the same evening, and hung up in a slaughter-house, where they remained till the following Wednesday, when they had become highly tainted; the mercury, on the 10th, rising to 80.

Some of this tainted meat was carried into Mr. Benjamin

Thom's house, at a small distance, and eaten in the family. A few days after, eight persons sickened with fever in this family. Mr. Thom, aged 45, of a strong constitution, was attended with wild delirium during his sickness, and some of the symptoms of hydrophobia. He repeatedly leaped from his bed, in attempting to bite his attendants; and actually bit a cup containing water, the pieces of which he chewed with greediness. As the disease advanced, his tongue became black, his breathing laborious, and his swallowing greatly impeded. He died on the 11th day of the fever.

Mrs. Dalton, one of the family, aged 38, of a good habit, was attacked with fever, and died on the 21st day of the disease. In the latter part of her sickness, the paroxysms of fever were violent, and her skin bordered upon purple; towards the close of life it became yellow. Physicians were called, but no regular plan of practice could satisfactorily be adopted; for a popular empiric, of no medical education, had reprobated the lancet and mercury, even with execration, so that people's minds were greatly perplexed. We were sometimes obliged to withhold these means when specially indicated, in order to appease the minds of prejudiced persons. Mr. Thom suffered but little blood to be drawn; Mrs. Dalton none!

The Author of Nature, however, was propitious to some, and afforded instruction. A youth, aged 12 years, was seized in the evening with fever, attended with delirium, which continued through the night. In the morning he bled freely from the nose, and his reason was restored. Another was attacked in a similar manner. On the third day a profuse hæmorrhage from his nose took place, and occurred several times in 24 hours, for four days. He also voided blood by stool without pain. A middle aged woman was attacked with oppression at the pit of the stomach, and vomited a large quantity of blood, with ease. The fever, in these cases, was moderate, and terminated favourably. The others recovered.

Some, who ate this tainted meat, suffered an attack of cholera in a violent degree. Alkaline salts and lime were freely given, with opiates. They all recovered.

Others, exposed to the noxious effluvia of this tainted meat at work in the slaughter house, sickened with fever.

On the 20th of November Mr. J. Bailey, aged 24 years, of a slender habit, was attacked with pain in his head and nausea. I was called on the 4th day, when his abdomen was tense, and he complained of heat in the stomach, and great thirst, with ejection of food. His pulse was 60 strokes in a minute, and intermitted after every second pulsation. A pint of blood was drawn, which was very dark and sizy, affording no serum after standing twelve hours. His pain was then alleviated, and his pulse quickened, but still intermitted. Three grains of tartar emetic, with twenty grains of pearl ash, were given, which operated several times as an emetic and cathartic. An aqueous solution of alkaline salts was given after each vomiting. The tension was then removed, and the heat abated. The next day his pulse was 80, and hard; thirst great. I then drew another pint of blood. The fever continued ten days, with moderate exacerbations and remissions. During the fever, alkaline salts were liberally given, and occasional doses of castor oil. He recovered.

On the 16th of November, Mr. Isaac Mason, of a spare slender habit, was attacked with pain in his head and back, oppression at the breast, and cough. I was called on the 5th day, when his pain was severe, cough dry and tedious, pulse 90, and tense. I drew 24 ounces of blood, and his pain abated. Four grains of tartar emetic were then given in divided doses, which operated several times as an emetic and cathartic.

Febrile paroxysms recurred twice in 24 hours, with some difficulty of breathing, cough, and thirst. Cream. tart. and olive oil were given freely, and jalap with calom. as a cathartic. On the 8th day, a painful strangury took place, which was remedied by alkaline salts and gum arabic.

On the 10th, coma and delirium supervened, with hiccups, tongue dry and dark coloured, eyes inflamed and watery, speech impeded, pulse 90 in the paroxysm, though not hard, low and moderate in the remission. Two grains of calomel were then given, and repeated once in two hours; blisters were applied to the neck,

breast and limbs—11th, 12th, and 13th, coma and delirium continued, and his hands were employed in picking and gathering the bed-clothes. He also made several attempts to get out of bed. On the 14th, his breathing was hurried, pulse the same, tongue black, swallowing difficult, bowels rather loose, which were moderated by opiates. His limbs were, at times, cold, while his breast was hot. An aqueous solution of corros. sublimate was then conjoined, equal to one eighth of a grain, once in two hours, continuing the calomel.

On the 16th there was an entire abolition of reason, and his strength was greatly exhausted, inclining constantly to lay upon his back; rattling in his throat, respiration difficult, and subsultus tendinum, eyes dull, half open, and fixed.

With increasing diligence I persevered in the use of means. The mercurial doses were increased to double the quantity, oil was liberally given; besides, a little wine was at times used; a large plaster of red pepper and cantharides was applied to his chest, and friction upon his limbs. He continued in the same apparently hopeless state till the 20th: viz. the 6th of December, when a fast was held, by previous appointment of our pastor, on account of the mortal sickness among us. At three o'clock, P. M. the throne of Grace was addressed, by a devout clergyman, in a congregated assembly, in behalf of this patient, and that the means used for his recovery might be attended with a blessing. A physician lately arrived from Havana, was at that hour called, who considered his disease as being similar to the yellow fever of the West Indies, and predicted that he would expire in six hours! He also declared to the Hon. James Meins, a magistrate, that the mercury which I had used would prove the cause of his death. I then retired to my house, in order to prepare for my trial. The exercises of my mind, at this critical juncture, can more easily be conceived than described. Early the next morning, I repaired to the house of my patient. On entering the sick room, I found, upon inquiry, that at the expiration of six hours from the time his death was predicted, and when it was momentarily expected, as the *dead rattles* were said to have taken

place, his salivary glands were suddenly thrown open, and a *copious* discharge took place, which continued through the night. His breathing then became easy, the sable coat was removed from his tongue, and his speech returned, his eyes assumed their former lustre, and his reason was restored. The Rev. Mr. Bradly, who was present, reminded him of the danger of his situation, but he was not conscious of having been sick. It appeared, he said, as though he had been dreaming. His health was soon restored, and he now enjoys that invaluable blessing.

"If God be for us, who can be against us."

The tainted *beef* was then condemned and removed, instead of a physician; and the slaughter house was cleansed with lime, so that people were no longer molested with disease. The West-India doctor frankly and publicly acknowledged, that mercury was the chief means which saved the life of this patient. Since this eventful case, he has successfully used this Herculean remedy in fevers.

REMARKS.

The solid instruction contained in the above narrative, is heightened by the candour and piety of the writer. His judgment of a *malignant* fever, although, unimported and accidentally created, was as wise and skilful, as firmly and conscientiously exercised. It behoves a physician strictly to adhere to his *instinctive* or well founded conceptions, after due and mature reflection. There comes after him, a host of prejudices to counteract, of doubt to clear up, of envious pretenders to science, of dignified monopolizers of fees to disappoint, of predicting quacks to belie—what an unpleasant and mortifying contest to endure? It is fortunate after all, that the greatest claim to confidence is ultimately obtained by whoever appears to have known a great deal more about patients: *cui ægrotorum res magis cognoscet audebunt homines seipsos committere.* (Hippocrates, *prognost.* 1.)

A Case of ERYSIPELAS INFANTILIS, *which occurred in the New-York Hospital, with its symptoms, treatment, and appearances after death. Drawn up by* JAMES W. WARBURTON, Esq. *house physician, and communicated to* Dr. MITCHILL.

Dated March 28th 1816.

DEAR SIR,

If the perusal of anomalous cases can afford any interest to the practitioner, or excite the laudable attention of students, to the examination of all the varied symptoms, which occur in the multifarious diseases to which man is subject; surely your liberality in snatching the following case from the oblivion which awaited it, merits and will receive the gratitude of the profession.

In a case of preternatural labour, which I attended in consequence of your indisposition; after twenty-one hours, (the woman's sufferings imperiously demanding it) the os tincæ was artificially dilated, and the child turned and delivered on the evening of the 18th inst. It had every appearance of perfect health, except œdema of the scrotum, (by no means an unfrequent occurrence even in natural labour,) for which a spirituous lotion was directed. On the morning of the 19th, the scrobiculus cordis, and the neighbouring parts, for several inches around, assumed a dusky purplish colour, which soon became tumid and tense; the disease extended to the region of the pubes, but its utmost force seemed to be accumulated among the parts within the scrotum, as that organ, by eleven o'clock, had already become livid, increased in size and hardness, with evident symptoms of approaching gangrene. The penis had an emphysematous appearance, (the common attendant on œdema of the scrotum,) but the child passed its water regularly and with facility. Yeast was directed to the parts diseased, and the child's bowels to be opened by molasses and castor oil. You visited him this day, and directed manna, in addition to his other remedies, until his bowels should be freely evacuated.

20th. His bowels are kept sufficiently open by the manna, but the symptoms are not at all alleviated:

the upper part of his feet have become œdematous. You saw him again to day, and directed the yeast changed for the "Lotio Plumbi." His general health seems yet to be good; all the functions are performed in a natural manner, and he sucks with usual avidity.

21st. His bowels continue regular, and his appetite good, but the disease is evidently progressing; œdema about the neck, also on the hands.

22d. The remedies are continued, but without relief of symptoms; sphacelated spots have made their appearance on the scrotum; œdema has extended over the extremities generally. He is becoming emaciated, and the surface of his body universally assuming a yellowish cadaverous hue.

23d. He is evidently sinking: respiration is accompanied by sighing, which continued until about eight o'clock, P. M when death terminated the painful process, which nature, so early, had begun.

On dissection, the parts within the scrotum exhibited marks of sphacelation in several spots. There was found in the cellular membrane a gelatinous kind of matter, resembling albumen, and occasionally mixed with serum; the tunica vaginalis was thickened, and its cavity filled with albuminous matter alone. Next to the tunica albuginea, a membrane was formed, tolerably well organized, which embraced the testis, and ascended up the cord on either side.

In the abdomen, the viscera generally exhibited marks of inflammatory action. The omentum, intestines, and peritoneum, presented a beautiful appearance of injected vessels. Besides, there was a considerable quantity of membranous matter, dispersed here and there upon the internal surface of the peritoneum, and continued down the passages, through which the testes had descended.

In the cellular membrane, about the abdomen, was effused the same albuminous matter, with serum, as was found in the tunica vaginalis.

There were no appearances of pus in any of the cavities!

This case exhibits all the external symptoms of "Erysipelas Infantilis," but on dissection, some phe-

nomena presented themselves, which might astonish even the experienced into scepticism; but the most prominent peculiarity was, that there should be so many marks of inflammation remaining, and in so many differently organized parts, and yet not a vestige of pus to be found in any part of the body; a circumstance peculiarly characteristic in the description of this disease, by Bromfield, Garthshore, Underwood and others, who describe it as exerting its greatest force upon the scrotum, (and labia pudendi of females) which soonest becomes gangrenous; but as affecting, also, the viscera of the abdomen primarily, from which pus is formed, and by its gravity descends through the passages of the spermatic cord, and round ligaments into the scrotum and labia, producing the symptoms just described.

In this case, it is true, that the scrotum partook of the greatest violence of the disease, and was the only part which had become sphacelated. But the circumstances attending the labour, by which this child was born, seem to me to present a much more plausible reason, to account for this appearance, than mere gravity. For, the shoulder of the child presented at the os tincæ, and, consequently, the scrotum was at the fundus of the uterus, exposed to its violent action during the whole period. It is likewise true, that matter was found in the abdomen, in the course of the spermatic cord, and in the tunica vaginalis; but it was of a very different nature from pus: and instead of being conveyed from one part to another by gravity, it is very likely, that it was produced in all these cavities by a synchronous action of the vessels of each. I have no doubt this was coagulated lymph, and that it would have become organized in conjunction with the testes, cord, and peritoneum, if the powers of life had been sufficiently strong to have supported the child a few days longer.

There was evidently lymph, with serum, effused into the cellular and adipose membranes. How this can be accounted for, from the present fashionable theories of inflammation, I am unable to determine.

Erysipelas infantilis, is a disease of such rare occurrence, that it behoves us to treasure up in our memories all the symptoms which seem to have any relation to

it. Although this case may not be the same disease which Underwood and others have described as "erysipelas infantilis," it certainly is a species of the same genus.

Hoffman makes no mention of this complaint in his "morbi infantum." He seems to have been acquainted with that variety only which appears about the abdomen, which he mentions in his chapter "de febre erysipelacea."

Haller, in his chapter "de febre erysipelacea," also makes mention of a similar disease affecting infants.

Dr. Bromfield had some experience in this disease: But Drs. Garthshore and Underwood, who attended the "British Lying-in Hospital," and had the most ample opportunities of witnessing its character and fatality, (the latter of whom gives the best account of the disease,) saw but few cases, in which their efforts were successful. Although they varied their practice in many instances, the event was, almost always, equally fatal.

To this instructive statement, we annex the history of an erysipelatous affection of the scrotum and surrounding parts of an adult subject, as minuted at the time of its occurrence. We give it a place, that the reader may trace the similitude between the fatal disease in the infant, and that in the full-grown man.

ERYSIPELAS *of the* GENITALS, *and of the parts in their vicinity, in a letter from* ISSAC WOOD, *Esq. late House Surgeon of the New-York Hospital, to Dr.* MITCHILL.

Joseph Huntington, a seaman, aged 44 years, born in Rhode-Island, was admitted into the New-York Hospital on Monday morning, the 13th of November, 1815. He had a tumor within the posterior part of the scrotum, and over the urethra. It was about half the size of a hens's egg, and very sore to the touch. It appeared a little swollen and inflamed in the course of the right inguinal canal, which was also painful when handled. The patient said he had strained himself on board of the vessel on Saturday previous to his admission. He appearing somewhat delirious, and nobody having

come with him to the Hospital, the account of the origin and progress of his complaint was not altogether satisfactory. The tumor, inflammation, and soreness of the groin and perineum, led to the suspicion, that a protrusion of a part of the contents of the abdomen was the cause of the patient's symptoms. There was, however, no sickness at stomach, nor did the patient complain when pressure was made upon the abdomen; and the pulse and tongue were nearly natural. A dose of ol. riccin. was administered. This operated freely. A bougie was then passed into the bladder, in order to ascertain whether a stricture of the urethra might not be the cause of his complaints. The urinary passage, however, was free. The hair was directed to be shaved from the parts affected, and a poultice applied. After he had been in the Hospital a while, he appeared to have some febrile excitement, and complained considerably of pain. He was ordered spts. mind. aq. comm. et tinct. opii. Patient's symptoms continued much the same. On the morning of the 16th, the pulse was intermitting. There was erysipelatous inflammation extending over the right groin, scrotum, penis, and upper part of the thigh. The penis was œdomatous. This day he was visited by the attending surgeon, Dr. Seaman, who directed a blister to be applied over the course of the inguinal canal, and bark, wine, mur. tinct. ferr. and anodynes internally. In the evening, as his bowels were rather loose, an anodyne clyster was administered. On the morning of the 17th, a large slough was found under the plaster—penis and scrotum much swollen and becoming gangrenous. About two o'clock, P. M. patient died.

Upon examination, after death, the scrotum and penis were found in a state of sphacelus. There was a kind of sack posterior to the right testis, containing dark thin matter, and sloughy cellular membrane; gangrene extended between the skin and muscles, over the groin, lower part of the abdomen, and round the small of the back; bladder considerably inflamed and thickened; the other viscera natural.

MONOGRAPHY *of an extraordinary case of* HYDROCEPHALUS INTERNUS, *by* JOHN BAXTER, M. D. *Honorary Member of the Philadelphia Medical Society.*

In your number for November, a case of hydrocephalus was communicated by Dr. Ireland, who observes that fifty-six ounces is "a quantity seldom or never known to be contained within the substance of the brain." The following case came under my observation while a student of medicine at Philadelphia, and as I do not know that it has been published, I offer you this imperfect account of it, transcribed from my note-book. I measured the fluid myself, and think there can be no mistake. At the instance of my preceptor, Dr. Dorsey, who was in consultation, in January, 1817, I visited the child of ——— aged sixteen months, whose head was most enormously enlarged with hydrocephalus, and had been enlarging from its birth. There were several tumors on the head, a large one, at the right lambdoidal suture. The child cried much, took notice of any thing that was presented to it; the pupil contracted and dilated naturally, and there was no strabismus; the appetite was not diminished, and pulse natural.

He died March 6, 1817, aged 18 months, having retained his perception until one month previous to his death. At the request of Dr. Dorsey an examination was procured. In the presence of Dr. Knight, the attending physician, who was, from ill health, unable to prosecute it himself, and several of my fellow students, I made a puncture in the largest tumor, which was now as large as an orange, through which was evacuated a limpid transparent fluid, measuring full one gallon and one pint. Previous to its being evacuated, the head measured in circumference, in a line drawn round the frontal and occipital bones, and just above the ears, twenty-seven and a-half inches.

On cutting into the cavity of the cranium, as was expected by Dr. Dorsey, the brain was found plaistered round the cranium, somewhat like the meat of a cocoa nut; it was quite hard and compact, and was from two lines to half a line in thickness, and in some places

the dura mater was quite bare. No convolutions were apparent, but the usual appearances of the brain were entirely obliterated; the cerebellum was also hard and compact, and much diminished in size; no nerves were discovered.

The sutures were stretched asunder, in some places, two or three inches. Dr. Knight, who delivered the child, observed, that the head was diseased at birth, and uncommonly large, and the presentation difficult to judge, owing to the tumor. I regret that I cannot give more particulars.

This quantity, then, of nine pints is the largest, I presume, on record, and may, by approximation, be estimated of the weight of one hundred ounces and upwards.

When we consider that the circumference of the head was about the same as in the case related by Dr. Ireland, some doubts may arise; but it should be recollected, that the brain was no more than a thin shell or inner lamina lining the cranium, there being no appearance of Ventricles, but the whole laid into one large cavity. The tumors added to this cavity were composed of the common integuments and of the dura mater, which was protruded through the sutures. The dura-mater was firm. The whole appearance was truly singular.

A Case of Paraplegy cured by the use of the Nux Vomica.

(Communicated and translated from the Bulletin of the Faculty of Medicine of Paris. No. IV. 1817.)

A boy of twelve years of age was, last year, in May, seized with a considerable numbness of the lower extremities, and no cause could be assigned for it. His ancle-joints soon became painful, and swelled on the anterior part principally. After this had subsided, he gradually lost the feeling and motion of both legs and feet; and on the 8th day from the attack he could walk no more. No circumstance of the disease, nor any visible distortion of the vertebral column, permitted to suspect an organic lesion, from ricketish habit, as a cause of this paraplegy. Dr. Fouquier being consulted, by all

means advised the exhibition of the nux vomica, at the dose of one grain a day, to be daily increased of the same quantity. At the third day, the abdominal limbs were affected with spasms and twitchings, which progressively acquired more intensity. On the tenth day of the treatment the boy could take ten grains of this potent medicine, and had perfectly recovered both motion and feeling of the legs and feet.

PRACTICAL OBSERVATION *on the efficacy of an American Plant, called* PIPSESSAWAY, *to cure* CANCER. *Communicated by* J. AMOS MOSSEL, *Esq. to* SAMUEL L. MITCHILL.

Philadelphia, Dec. 20, 1817.

THE attention of the people has been excited to the observation and collection of a plant, termed by them Pipsessaway, (Pyrola umbellata,) growing spontaneously in all our adjacent woods, in consequence of two recent extraordinary cures effected by the use of an infusion of it. They are as follows:

Peter Meany, 45 years of age, was about 13 years since afflicted with wolf cancer in his back. After four years growth it was extracted, but again appeared in about three years after the performance of the operation. It was again extracted, but in three years more it visited him with aggravated symptoms. Despairing of the effect of the knife, he used a tea of the deduction of Pipsessaway, by the recommendation of a friend, and in about a month after commencing its regular use, the cure was effected.

George, a negro boy, about five years of age, was seized with a painful affection of his face and lips, and endangering his left eye; the mouth greatly distorted. Medical aid was resorted to, but proved ineffectual. In about three weeks use of the tea of Pipsessaway, he was perfectly cured.

INTELLIGENCE.

Atmospheric Constitution and Diseases of New-York, April 30, 1818.

No quarterly period has, during many years of observation, offered us less remarkable incidents in the temperature of the season, in the vicissitudes of weather, and in the prevalence of disease. The bills of mortality have not decreased, however, owing, no doubt, to a greater accession of population, and to the concourse of foreigners.

The first piercing cold which was felt on the twenty-first of December, and a few succeeding days, ranged from 9° to 12° of Fahrt. but soon reascended with little variation, to that of 30° and 45.° Once more a thermometrical depression took place in January, of 7°, but never again through the winter, which has generally been moderate, and more congenial to our latitude, which is indeed more southern than any mediteranean coast of France. The snow was rare and scanty on this island. The inland navigation on the Hudson has not suffered a long interruption, nor has that of our coasts encountered as many disasters of storm and shipwreck, of which former seasons have been productive. On the other hand, the winter, which has elapsed without calamitous vissitudes, has steadily remained cold, until the equinoctial period, which has brought on profuse rains, hail-storms, cloudy days and nights, high winds, and a torpid state of vegetation. We were going to remark, that with a so regular and favourable period, no return of our former epidemics has ever called our attention, except the small pox, which manifested itself among unprotected victims, in December last. It has, however, been timely checked, by the humane provisions made under public authority, to impart generally, the benefits of vaccination. The number and variety of

other diseases, which have continued to require the fostering care of our charitable intsitutions, were mostly observed among the poor and labouring classes, in a greatly diminished proportion, and which, we are happy to remark, evinces the wisdom and efficacy of the measures employed to abolish pauperism in the city, where it has heretofore been alarming, and indecorous. Inflammatory and acute diseases, incident to the wel fed, or to the intemperate in society, to those who incessantly contrast their luxuries and comforts with exposure, to nightly routs and amusements, have been rare; in many instances they have, however, suffered with various kinds of *pyrexiæ*, and also, with attacks of the *typhus mitior*. We had remarked in our last report, that the *typhus gravior*, which, during the preceding season, was very fatal, had exhibited such characteristic symptoms different from the European typhus, as to suggest further consideration and inference on its ætiology. We repeated, from European authorities, what were the principal features of the one, and those which we have invariably observed in the rapid and deadly stages of the American *typhus gravior*. This, we remarked, from the loss of animal heat and torpor of the powers of the sensorium, should be referred to a powerful cause in the cerebrum and nervous system. The same observation we now will apply to the *typhus mitior*, the only dangerous form of fever of which we have observed many cases during winter. It is a truly indigenous disease, and was by the ancient inhabitants and physicians called the *long fever* and the *nervous fever*. With whatever symptoms or degrees of them, it has often been reproduced, its nosological distinction from the typhus gravior arises only from the *judication* of its protracted febrile period; but it is, like the other, characterised by the general torpor of the nervous system, the cessation of internal secretions, and by the suspension of muscular irritability, and as the deleterious cause with which it originates affects primordially the cerebrum, it may occasionally offer a total derangement of mental powers. Of this form, many cases have occurred to our observation, during winter. Patients were insensibly thrown into a kind of melancholia,

connected with objects of religious terror, of poison, or of any other distressing cause that entirely removed the idea of any bodily ailment, and continued with more or less delirium, as long as the disease; when this was resolved, the patient would return to his senses, and retain neither recollection or consciousness of his error, or of his situation, however long it had lasted; and in several instances, not less than twenty-one days. This remarkable effect requires a careful discrimination on the part of the physican, who might mistake the nature of the attack, its necessary prognostic, and adopt an improper treatment, or a management adapted only to cases of lunacy, should he not be guided by the usual febrile symptoms and state of the pulse, by the restlessness and wakefulness of the patient, the black or furred state of the tongue, and by the muscular debility. For a more detailed account of the symptoms and treatment of the *typhus mitior*, we refer the reader to the excellent views of Moses Willard on the same complaint. Vol. ii. New Series, page 114.

ANNUAL BILL OF MORTALITY, for the City and County of New-York, as reported by Dr. G. CUMMING, City-Inspector to the Common Council, for the year 1817.

1817.	Jan.	Feb.	March.	April.	May.	June.	July.	August.	Sept.	Oct.	Nov.	Dec.	Total.
AGES. OF WHOM WERE OF													
The age of 1 year and under -	46	40	48	27	45	51	70	80	74	40	42	36	599
Between 1 and 2 - - -	12	24	13	10	13	7	22	27	36	18	10	16	208
2 5 - - -	12	19	10	11	8	7	11	12	15	13	10	14	142
5 10 - - -	5	12	5	6	8	4	9	8	8	8	7	8	88
10 20 - - -	11	8	11	10	10	11	13	15	15	13	15	14	146
20 30 - - -	31	24	16	22	24	22	20	27	24	42	33	28	313
30 40 - - -	30	31	23	33	28	27	19	25	18	27	29	24	314
40 50 - - -	25	13	27	32	30	23	21	21	25	20	16	15	268
50 60 - - -	22	17	16	10	25	13	12	7	15	17	9	15	178
60 70 - - -	6	8	7	11	8	9	7	14	8	7	10	15	110
70 80 - - -	12	4	7	5	8	7	6	11	8	11	11	6	96
80 90 - - -	2	8	4	7	2	2	4	2	9	5	2	4	51
90 100 - - -	0	5	1	1	0	1	1	1	1	1	1	0	13
100 and upwards - -	0	0	0	1	0	0	0	0	0	0	0	0	1
TOTAL.	214	213	188	186	209	184	215	250	256	222	195	195	2527

REMARKS.

Of the total of 2527 deaths, designated by causes or circumstances, it appears that *consumption* alone, has carried more than a fifth part—the afflicting number of 574! and *convulsions*, 176; it should be remembered, however, that this form of disease usually assails the period of infancy. *Typhus fever* is another great prevailing cause of mortality, and gives the number of 162 victims. *Inflammation of the chest*, comprising, no doubt, pleurisy and pneumonia, 91. (We read two other items of these diseases forming an aggregate of 120.) *Croup*, 60. *Intemperance*, 40. This, we suppose, is *drunkenness by ardent spirits*, because intemperance brings on a multitude of fatal diseases no doubt, contained in the catalogue of the city-inspector. *Apoplexy*, 46. *Spruce*, 20. This name of disease is that infantile complaint called *sprue* in this city, and means the *Thrush* or *Aphthæ*. *Suicide*, 15! and old age 96.

Case of the late Princess Charlotte of Wales.

The ultimate fate of this young princess, who was so nearly seated at the head of a powerful empire, and on whose offspring's head a crown would have been placed, has excited an uncommon degree of interest among all ranks of people throughout the world. We sincerely partake of the general regret which her personal worth particularly deserved. Alas! she was a young female much to be pitied, for that she was where so many cares, formalities, state council superintendance, and other preparations for the birth of her child, must have created a deep uneasiness in her mind, and certainly more than she could ever meet with in the ordinary walks of life.†

After all sympathies and feelings in the case, whether human, or political, have been indulged, we, physicians, come for our share, who must confessedly ac-

† "What prodigious armies!" said my uncle Toby to Dr. Slop, "what prodigious armies we have seen in Flanders!"

Tristram Shandy.

knowledge, that the whole affair and result does not redound much to the confidence to be placed in medical art or obstetrical expertness, in the kingdom of Great Britain, or elsewhere. We, therefore, would like to reason a little on a matter of so simple a nature. The many vague and unsatisfactory accounts we have read, appear mysterious and contradictory. It is said that official statements have not been thought proper! But whenever medical authority has been made responsible, we have a right to vindicate its principles and doctrines, no matter in whose hands the blame must lay at last, for their violation and neglect, to the great sorrow of humanity, or of a reigning monarch.

We transcribe here a statement of facts published in the London Medical Repository for December last, and said to be strictly authentic :

" The Princess Charlotte, previous to her confinement, was in good health, and immediately under the eye of her accoucheur, Sir Richard Croft, who resided at Clermont for three weeks, up to the moment in which she was taken ill. Dr. Baillie, also, was in attendance, chiefly, we have been informed, on account of a promise exacted from him by the Princess, that he would be near her on this occasion. Her spirits were excellent, and she anticipated only the most favourable issue of the event which was hourly expected.

" She was first made sensible of her approaching delivery at seven o'clock, on Monday evening, the third of November; but the labour pains were so inefficient, although acute, as scarcely to evacuate the water, which had ruptured the membranes at the commencement of the labour; a circumstance, however, which every accoucheur knows prognosticates nothing either uncommon or untoward. In this manner the labour proceeded, slowly, for twenty-six hours; the Princess being frequently up and walking about, from finding that the pains almost left her when she was in the recumbent posture. About this time, also, judging from the inefficiency of the pains, and the little progress made in the labour, we understand Sir Richard Croft suspected that there were either twins, or that there existed some irregular action of the uterus; and, as it was probable a consultation

might ultimately be required, he wrote to Doctor John Sims, requesting his immediate attendance. He had, in the mean time, provided whatever could be wanted, should it be found expedient to have recourse to artificial delivery.

"Dr. Sims arrived at Clermont at two o'clock in the morning of Wednesday, but did not then see the Princess; and, as the cause of this has been grossly mistated, we think it proper, in justification of an honourable man, and so highly respected a member of the profession as Sir Richard Croft is well known to be, to state, that we have been informed, from a quarter which we must credit, that it was proposed by Sir Richard to Dr. Sims, that he should then be introduced to the Princess; but both Dr. Sims, himself, and Dr. Baillie, thought his presence, at that time, could not be productive of any benefit, but might agitate the patient. Dr. Sims, therefore, declined entering the lying-in room. No consultation was at this period necessary, as the labour was evidently advancing, although slowly: but, on hearing the statement of the situation of the Princess from Sir Richard Croft, Dr. Sims concurred in the opinion that every thing should be left to nature.

"About noon, on Wednesday, it was first suspected that the child might be dead, or that it might be born in a state of suspended animation; and every known means of recovery were immediately prepared. Still the labour continued to be scarcely progressive, the pains being such as tend to forward birth rather by moulding the head so as to admit of its easy passage, than by forcible expulsion. When this was completed, the pains became more efficient; and, at the termination of fifty hours from the commencement of the labour, the Princess was delivered, by natural efforts, of a still-born male child. No great discharge followed the birth; but it was soon discovered that the uterus was acting irregularly, and taking on the hour-glass contraction; and an unfavourable separation of the placenta was anticipated. This likewise, in some degree, accounted for the protracted character of the labour.

"At half past nine o'clock, a discharge of blood occurred. Dr. Sims, who was then employed in an adjoining

room in endeavours to re-animate the infant, was instantly informed of this occurrence; and, in consultation with Sir Richard Croft, agreed that the immediate separation and removal of the after-birth was necessary. It was effected with little difficulty, and was followed by a very trifling discharge either of fluid or coagulated blood.

"The Princess was now as well and composed as ladies usually are immediately after delivery; and continued so until a quarter before twelve o'clock, taking frequently small supplies of nourishment; but at this time she became restless and rather talkative, and complained of being sick. She vomited, but nothing was ejected, except a little camphor julep, which she had taken; and at this moment her pulse was firm, steady, and under a hundred. She again was composed. About half-past twelve, however, the breathing became impeded; the respiratory organs were evidently under the influence of spasm, and continued in that state until she breathed her last, at half-past two o'clock; exactly five hours and a half after her delivery.

"In this afflicting state of the case, Dr. Baillie and Dr. Sims, who had been called into the room when the breathing first became affected, united their judgment and their skill with that of Sir Richard Crofts, but in vain, to avert the impending calamity. Art proved unavailing, although every thing which it could devise, and which experience could suggest, was attempted.

"On the seventh of November, the body was opened by Sir Everard Home, assisted by Sir David Dundas, Mr. Brande, and the Apothecary of Prince Leopold's Household; and, we believe, the following is a pretty accurate statement of the appearances these gentlemen observed:

"The membranes of the brain presented their natural aspect. The vessels of the pia mater were less distended with blood than was to be expected after so severe a labour. The ventricles of the brain contained very little fluid. The plexus choroides was of a pale colour, and the substance of the brain had its natural texture.

"The pericardium contained two ounces of red coloured fluid. The heart itself and the lungs were in a natu-

ral state. The stomach contained nearly three pints of liquid. The colon was distented with air. The kidneys and other abdominal viscera were in a natural state.

"The uterus contained a *considerable* quantity of blood, and extended as high up in the abdomen as the navel; and the hour-glass contraction was still very apparent.

"The foregoing narrative throws very little light upon the immediate cause of the death of the Princess. The fluid found in the pericardium might have obstructed the due action of the heart; but it is not easy to account for its presence there, nor to conceive how so large a quantity could have been effused during the short space of time that supervened to delivery, before the breathing became impeded. The quantity of the blood which was found in the uterus might have induced exhaustion; but this opinion can only be conjectural, as it is impossible to draw any certain inference from the rather indefinite expression "considerable," contained in the REPORT of the Surgeons. Imagination indeed has been busy, and a phalanx of casual circumstances have been arranged to account for the dissolution; some of which are ungenerously and too unguardedly, not to say maliciously, calculated to attach blame to her attendants; but we must deprecate such expositions, as unjust to the individuals concerned, and in no degree honourable to the Profession.

"We have been informed that the whole of the Royal Family are liable to spasms of a violent description; and to this hereditary predisposition, and the increased excitability of the amiable sufferer, owing to the tedious nature of the labour, are we left to ascribe an event, which has destroyed the flattering hopes of the Nation, and lopped off the fairest branch from the stem of its Monarchal Succession."

It is to be inferred from the above, that no other material obstacle has occurred in this case, but that of inefficient uterine exertions and contractions, although they had commenced by an early rupture of membranes, a circumstance which always prognosticates some difficulties, since it proves an irregular action, and not correspondent with the descent of the uterus, nor with the dilata-

tion of the *Os Tincæ*. This want or suspension of energy is more or less to be met with in a first parturition, in irritable constitutions, plethoric habits, especially if a despondent or terrified state of mind operates as an additional excitement, and thus causes the absolute recession of local powers. In this unfavourable state of indirect debility, the pains, although inefficient, are very acute, the labour is exhausting and of slow progress, effected as it were by the mechanical weight or dependency of the parts.

If forcible or artificial means of delivery are employed, they add much local irritation, and expose the uterus to inflammation. Should it at last be obtained, without its corresponding contraction, fainting and sinking feelings seize the mother; constriction of the stomach, difficulty of respiration follow; death soon closes the scene, with that remarkable and continued state of torpor of the uterus which withholds any alarming degree of hæmorrhage.

We are surprised in reading the above narrative, that after twenty-six hours only of observation, the principal attendant should begin to suspect that there were *either twins* or some *irregular action of the uterus*; as if this circumstance, with or without twins, had not been already evident and pressing enough as to suggest some prompt and effectual remedy; but, what is still more unaccountable is that, in the dead of the night, an eminent medical character should be sent for, who must not see, or refuses to see the princess, for fear of causing agitation, and advises that every thing should be left to nature! We remark, that since the arrival of this physician, the Princess remained still seventeen hours in labour; it could not, therefore, be too late for embracing more effectual means than *nature*, or else it was wrong to let her misery and exhaustion be continued so much longer. The concluding part of the account is no better than the first. "The Princess was well—taking frequently small supplies of nourishment—she vomited—nothing but a camphor julep which she had taken." It must be granted that this julep was not a very comfortable condiment to be added to her food!

In the autopsia concluding the doleful scene, we find proofs of the plethoric state of the Princess. The pericardium contained two ounces of a red coloured fluid, and a great quantity of blood was found in the uterus. The first demonstrates certainly that there had been a state of distention in the heart, or a somewhat repressed state of circulation, while its impulse was insufficient in the matrix, where the blood remained coagulating.

That the suspended agency of the nervous system was not alarming at first, may be inferred from the absence of spasms and convulsions. According to established doctrine, therefore, repeated small bleedings, warm bathing, and gentle stimulants through the alimentary canal could not have failed restoring the uterine contractions and promoting a natural labour. In a case of much greater danger, not only in point of suspended, but of inverted and irregular action, Dr. Dewees successfully carried bleeding to *deliquium animi*. (Vide Med. Rep. vol. ii. Old Series, page 22.) We are sensible of the great talents and experience of those who must have directed every thing for the good of the Princess Charlotte. We suspect, however, that they were not all called in time and in unison. The principal may have erred! Bleeding is unfortunately a remedy controlled by local prejudices, as it is one of times, of climate, of fashion, and sometimes of national antipathy. Enlightened men are met every day who will rather dispense with it than to inquire into, or admit its immediate and happy effects, in counteracting a morbid constitutional action, and thereby renovating the diffusion of a more regular energy throughout the nervous system and the involuntary muscles. That some great error has been committed in this case, is not only to be inferred from the mystery with which it has been covered, but from credible reports in London of an important fact!—the artificial delivery of the Princess, the lateness of which probably could not escape an open censure! By a thousand bitter regrets and reproaches, the principal attendant has at last been reduced to despair—and suicide!! A great lesson indeed! A convincing proof that a sense of moral rectitude, and of a conscientious discharge of professional duties, together

with the use of his own talents and skill, may sooner abandon a physician exclusively engaged in the tumultuous range of ambition, of intrigue, of powerful patronage, and of fashion.

New-York Society, for the instruction of the DEAF *and* DUMB.

IT is a matter of congratulation, that the benefits, long ago, and successively devised among foreign nations, for the deaf and dumb, may be resorted to by, and imparted to the same, in the United States. In New-York only, and its vicinity, already their numbers has been estimated at one hundred and more.

On the 24th of March, ult. the Hon. Samuel L. Mitchill, one of the vice-presidents of the society, pronounced, at their request, a discourse in the City Hall, before the most numerous and respectable assembly, that philanthropic and sympathising feelings could ever have convened in it.

Before stating what considerable number of deaf and dumb, were in this city, proper objects for instruction; also, upon what plan and resources the views of this institution could be best promoted, the orator entered in a learned and eloquent disquisition, on the interesting points connected with his subject; namely, *reason* and *speech*, which are the characteristics of the human race; voice and articulation; their separate powers, their joined effects; the anatomical connection of the organs of the voice and of hearing; the importance of those faculties, for the happiness of man, and his dominion in the creation, even for his intercourse with his Maker, &c. The orator did more affectingly captivate the attention of his hearers, by depicting the effects of connate malconformations and diseases, which abolish the sense of hearing, from infancy and through all other stages of life. The better to exalt this philanthropic and social enterprise, the civil rights and liberties of the deaf and dumb were asserted equal to their mental powers and silent rationality, even in ancient records of jurisprudence. Nay, the sacred Redeemer frequently interposed his mi-

raculous powers for their relief! Nothing could be more interesting, than the concluding narrative of all that had been attempted by ingenious benevolence, and accomplished for an appropriate mode of tuition of the deaf and dumb, among the civilized nations of Europe. The display of the wonderful acquirements of their pupils, were produced and proved by substantial specimens.

To the medical readers of this Repository, Dr. Pascalis particularly addresses the following descriptive anotomical connection of the sense of hearing with the organ of speech, as extracted from this performance; no writer has yet so distinctly adverted to the controul of one over the other, and it cannot fail suggesting the possibility, in many cases, of surgical relief. (p. 10.)

"All these functions of the voice would be lost in air, unless there was some sense to which they were immediately adapted. This resides in the organ of hearing. Among the correspondences in nature, there is perhaps none more exquisite and admirable, than that subsisting between the throat and the ear. The fitness extends beyond the constitution of the individual person; it has the nicest relation to other beings of the like organization. In the contemplation of this subject, it ought not to escape observation, that sounds may be heard by the ear of the person who utters them. In this manner they may be modulated, harmonized, and rendered pleasant, as well to the speaker, as to the listener. It is likewise a worthy theme of reflection, that in the act of communicating to another by the voice, there is a chance that both parties may enjoy pleasure; but such is the kindness of providence in this particular, that though the passive party may grow drowsy at the tale, the narrator is sure to be delighted with his own performance.

"There is an association, by means of the nerves, between the organ of hearing and the tongue. Instead of proceeding from their origin, direct and unconnected, to their respective places of destination, these sensitive filaments communicated with each other. While the *soft portion* (portio mollis) of the *auditory* nerve, spreads itself upon the labyrinth of the internal ear, and consti-

tutes the immediate seat of hearing, the *hard portion* (portio dura) of the same nerve, despatches a branch to join a branch of the fifth pair, and to form by their union the (chorda tympani) cord of the drum.

"This fifth is called the *gustatory* pair, because it sends a branch to the tongue; which is an instrument of speech. This branch comes from the *inferior maxillary nerve*, that reflects a twig to the ear, to be engrafted with the twig of the seventh, just mentioned.

"The connection might be traced further. by following the third pair of cervical nerves along their distribution to the outer ear; and by examining the constitution of the *cervical plexus*. and of its manner of supplying the larynx with nerves.

"The eighth, or wandering pair of nerves (par vagum) after distributing twigs to the tongue and larynx, interlaces with the cervical plexus, and thus aids in sustaining the relation between the organs of hearing and of speech. You may learn the more particular organization of the ear, from VALSALVA and DUVERNEY.

"The ear is the part of the body specially intended for social purposes. It appears from examination, that it is singularly constructed. There are two parts that may be termed *external;* one of which communicates with the atmosphere through the outside of the head, and the other through the inside of the throat. The former is distinguished as the outer passage, and the latter as the eustachian tube. Between the two is placed the internal organ of hearing. The tympanum with its catenation of little bones; the vestibule, the cochlea and the semicircular canals; and above all. the delicate expansion of the auditory nerve; are in their intermediate stations. That this important function might not be interrupted by slight or ordinary causes, the more precious portion of the organ is protected by an osseous case. Its remarkable hardness has given rise to the name of os petrosum, or the rocky bone. The protection it affords, surpasses that of any other part of the frame. The liver, the spleen, and the brain itself. are exposed and insecure, in comparison of the membranes, bones and nerves of hearing. These are remote from outward accidents; and locked up, besides, in the strongest box of the body. Such precautions for

their security, show the extraordinary importance attached to them by their Maker."

However numerous have been the failures of the perforation of the tympanum, for restoring the sense of hearing, much remains to be done with it, or otherwise the intermediary agency of nervous ramifications, as far as they can be seized, may be submitted to resection or cauterisation. It is certainly deducible from numerous operations on aneurisms, that the *resection* of a palsied nerve, should benefit the depending parts or organ. Might not acoustic trumpets, or certain vibrating instruments, be adapted in the mouth or throat to some purpose? For this and other experiments, we are happy to have this opportunity of suggesting to the institution for the deaf and dumb, the importance of affording them every possible medical assistance, which it has been, hitherto, the almost exclusive lot of an ingenious philanthropy to afford.

There were a great number of deaf and dumb children present, some in the laps of their mothers; when the orator addressed them severally, in the name of an institution, which now entrusts the success of their undertaking, to the zeal and generosity of their fellow-citizens. All the sentiments which were then roused, could not be here introduced, but to propagate some of them among professional brethren, whose sympathy is more particular required for the relief of organic defects, we will repeat and circulate the following: (p.17.)

"We owe much, more in reality than the pride of many permits them to acknowledge, to our mothers. What can equal the tenderness of the female parent, to her child? She moulds her offspring to habits of action; she instils into it principles of conduct. The most early and important lessons of life, are derived from this source. Mothers! know ye, and practice, the duties of your stations! You prepare citizens for their diversified walks of life. Consider, that much of their future success or disappointment, is derived from you. More impressive, more lasting are your lessons, than the boasted lectures of academy or college. Where you are virtuous, intelligent, and decorous, the little ones, by imitating the beautiful pattern, become also

good, wise, and well-behaved: when the contrary, the house is a polluted den. Such an exemplary mother is an invaluable treasure, both to the commonwealth and to her family. Let her be prized by some moral denomination of worth, for her price cannot be rated in current money. Form the minds of your children to sentiments of love and affection, of attachment and of duty, and these will generally be indelible. It is mostly through the neglect of the parent, that the weeds of disrespect and ingratitude take root in the garden of the mind.

"The deaf children now standing in your presence, fellow-citizens, have never heard, as you and I have, the voice of maternal love. The accents of affection issuing from the mother's voice, are unknown to them. The salutations of the brisk morning, and the blessings of weary eve, have made no impression. They have never been composed by the melody of the lullaby, nor by the sweetness of the cradle-hymn. Think of the emotion of a mother, speaking and singing to her deaf offspring. The effort to be heard is vain. This is afflicting enough: but this is not the whole. She recollects that not a single sentiment of morality, piety or duty can be thus conveyed."

FORENSIC MEDICINE,

In the case of ABRAHAM KESLER, *of Montgomery County, New-York.*

THIS man was convicted of murder, at a Court of Oyer and Terminer, held in Scoharie County, on the 13th of September last, and sentenced to be executed, in the ensuing month. The crime was committed on the person of his wife, and there were two counts in his indictment, *one for administering white arsenic, and the other for administering laudanum.*

The trial was founded upon two sorts of evidence, *circumstantial* and *scientific*, or forensic medicine. To this it is our object, and we think our duty, actually to advert.

Two months after death, the body of the deceased was disinterred and carried into a house, there to be opened and examined by physicians, who after they had performed certain experiments with the matter found in the stomach, acknowledged and testified, that in it there was *arsenic*.

The *case* was afterwards committed to the governor of the state, for legislative examination, on the ground of certain *inductive* doubts among the jurors, on the correctness of the testimony. His Excellency immediately respited the execution of Abraham Kesler, and requested Dr W. I. M'Neven, professor of chemistry, in the university of New-York, to examine and report on the scientific part of the testimony; he reported, concluding *that those experiments, which alone are certain, were omitted, and that none had been performed with unexceptionable accuracy; consequently, that the indictment for poisoning with arsenic was not substantiated by the scientific testimony.*

The governor, by his message of the 27th January, to the senate and assembly, ennumerated and transmitted this, and all other documents. A committee of the legislature on *courts of justice*, examined a number of physicians on the subject, and ordered experiments to be performed with a view to confirm or invalidate the opposite inferences. By their report of the 5th of March, however, they stated, that the verdict of the jury had been correctly given; they saw no reason for interposing the pardoning power of the legislature, and in conformity to the report, an act was passed directing the execution of Abraham Kesler, &c.

REMARKS.

Inasmuch as we are accustomed to respect and cherish our laws, we could not consent that a single feeling of distrust or censure, should be excited against the justice of our tribunals, and the wisdom of our legislature; also, far from wishing to disseminate disrepute, or mistrust against any professional gentlemen, much less when their useful and laborious avocations incessantly merit the greatest confidence from their fellow

citizens, we remind our readers that many pages in nineteen volumes of the Medical Repository, have incessantly been dedicated to the dignity of the medical character and authority in the United States, by diffusing among all its votaries, that useful knowledge, which mostly had originated from them; if it has happened, therefore, that the opinion and judgment of a crime, for which the awful dispensation of life or death must have been guided by medical authority, we are equally impelled to examine its application in the case, for its exemplary vindication or for the right of others to correct it, in any similar circumstance.

It is a clear inference, and a self demonstrated proposition, that the arm of medical jurisprudence is not called forth to the assistance of courts of justice, in this or any other civilized nation, but when there is not *positive evidence*, or when this is imperfect and defective. It is also surmised, that scientific evidence, being deduced from certain unerring principles and laws of nature, must equal or even surpass the evidence of the senses, which see, which hear, which touch, as it is not exposed to the errors of the senses. But should this scientific evidence be so construed and shaped, as to create controversies, either from diversity of opinion, or from application in theories and facts, then it ceases to be a substitute to *positive* evidence, then it is unavailing, then it must be silenced in the contest between crime and innocence. That medical and scientific evidence, in the case of Abraham Kesler, is controvertible and of absolute nullity, we will prove by adverting to three material circumstances.

1st. The examination (autopsia) of a corpse in which death was supposed to have supervened by poison, two months after it; when it was in a high state of putrefaction!

2dly. The omission of inquest in conformity to the indictment of poison by laudanum, and whether or not the autopsic appearance was indicative of the deleterious effects of opium.

3dly. To the deficiency of *chemical* and want of *medical* evidence to substantiate the administration and operations of arsenic.

The first, should never have been complied with by physicians, and in case of the civil authority interposing, it ought to have been made aware, that in this instance, autopsia, 1stly, could furnish proofs only of considerable external injuries, fractures of the skull, or of the limbs, and of assassination by sword and fire arms, &c. 2dly. That in case of poisoning, especially by arsenic, which is the most putrifying and corroding substance that can be introduced into the human body, the alterations produced by it, would be similar to those of the present stage of putrefaction; that its particles confounded in the general dissolution, could not be recognized, and would baffle the best experiments or tests. 3rdly. That in the second degree of putrefaction, autopsia is dangerous to the attendants or others, not only by poisonous effluvia, but by contact with the hands of an operator, which effects have been already abundantly proved. Medical jurisconsults have described the necessity and the means of preserving dead bodies from putrefaction in all cases of protracted examination, or of attendance of witnesses. In the year 1810, Dr. Rossi, the physician of the Prince Royal of Sweden, was expelled from the state, by sentence of a high court of justice, for having neglected employing proper preservative means to enable him to account for the sudden death of his royal master, and whose body had rapidly putrified!*

II. That according to the indictment, laudanum or opium might have been the means of poisoning the deceased, and probably to a great quantity, was proved by Dr. B. Carpenter's testimony. He gave the prisoner no less than half an ounce at one time of this drug, on his declaring *that his wife was in the habit of taking opium.* He gave again another smaller quantity, on his mentioning that a part of the first had been lost. Whether all this had been employed with a criminal design or not, it was certainly conclusive that there had been enough of it to cause death; and it remained with the physicians to examine what appearances might be indicative of its operation, as closely and minutely as they investigated those of the arsenic. A *certain black fluid*

* Vid. Mahon Med. Leg. tom. ii. page 223. Fodéré, vol. iii. page 19.

contained in the stomach might have been a tincture or a solution of opium! The inflammatory suffusion of the inner coat should have been also its immediate effect. This alteration, with black spots here and there; with the heart and large arteries flabby or empty with the great abdominal veins gorged and distended with blood, would have marked a death by opium! Had the cadaveric alteration been the reason why this investigation was not undertaken, nor even mentioned, then the objection remained the same against pursuing a variety of experiments to detect arsenic, which one only could have elicited from putrid compounds, but which, after all, was omitted.

III. The want of chemical evidence of an arsenical poison on the part of the scientific witnesses has been represented to his excellency the governor, by the professor of chemistry. Many attempts at controversy on this report we have read in the newspapers of Albany, and also a statement of a few experiments performed by order of the committee of the legislature. A reply to all these from high authority has not escaped our observation. (Vide *Democrat. Press* and *Columbian*, April 17.) It is not our object to interfere. But agreeably to the principle we have laid down, we repeat, that matters in testimony, which were expected to be inferred from the *irrecusable* laws or agencies of nature, having become *controvertible*, cease to be invested with a required characteristic *evidence*, and could not any longer guide the decisions of a court of justice or of legislative authority. The controvertible nature of the chemical evidence on this trial we derive from one principle only, and which we think sufficient; to wit: the contents of a putrid stomach with a variety of substances, food, medicines, and all the binary compounds resulting from its dissolution, such as phosphoric acid, ammoniacal compounds, &c. could not lead experimentally to the truth, except by reviving the metallic poison; and this has not been done! But, we say further, that *medical evidence* is totally wanting in the above trial of poison by arsenic. The external appearances of the stomach and bowels have shown nothing but a *morbid* state, another said, a *high state of inflammation* which may have

been caused by opium, and no other ravages. Now we are told, (vide Fodéré, Mahon,) that any quantity of arsenic which is sufficient to cause death leaves visible marks in the mouth, in the throat, in the œsophagus, the stomach and also the intestines; that the depending parts where it has lain are corroded to the thinness of paper, or perforated at different spots; that the papillæ of the stomach are destroyed; the inner coat torn into flakes of brown or red colour, that all other thoracic and abdominal viscera having participated in these ravages by subsequent effects, are more or less marked with inflammation and gangrene. Nothing is related of these unequivocal signs, and much less of the preceding and comparatively horrid and distressing symptoms which immediately follow the administration of arsenic. The evidence of Dr. B. Carpenter states from whence the prisoner had obtained the opium; but as this metallic substance did not come from him, the prisoner must have brought with him the fatal dose, and given it on his arrival at Middleburg; yet, two days after, the deceased appeared considerably better, could set up, and wash herself, &c. which change of symptoms appears incredible, or impossible, during the operation of a fatal dose in the stomach! &c. These and other circumstances are more than sufficient to prove the want of medical evidence in the case. The guilt of Abraham Kesler, to which *circumstantial* evidence has affixed very strong suspicions, as reported by the committee of the legislature, is not, therefore, proved by *positive*, and much less, by the substituted medical and chemical evidence.

UNIVERSITY OF NEW-YORK.

At *the annual medical commencement of this Institution, for the purpose of conferring the degree of* Doctor of Medicine *in the College of Physicians and Surgeons, held the 7th of April*, 1818, *and under the presidency of* Samuel Bard, M. D. L. L. D. *the following Gentlemen were vested with their Academic honour, after which an appropriate address to the Graduates, was delivered by the President:*

John B. Aycrigg, of New-York, *on Sphacelus.*
Abner Alden, of New-York, *on Plurisis.*
Charles P. Allen, of New-York, *on Diabetes.*
Joseph Baxter, Massachusetts, *on Cutaneous Perspiration.*
Ezekiel Robins Baudouine, A. B. of New-York, *on the Diseases of Dentition.*
Remi Seraphin Bourdages, of Canada, *Sur l'inflamation aigue du systéme muqueux.*
Frederic Burnham, of New-York, *on Assimilation and Life.*
Joseph Canby, of Ohio, *on Tetanus.*
Stephen C. Farrar, of Virginia, *on Emetics.*
Jeremiah Fickling, of South Carolina, *on Phlegmasia Dolens.*
Thomas Fortier, of Canada, *Sur les phenomenes de la puberté, chez la Femme.*
David H. Fraser, A. M. of New-York, *on the Medical Police of the Navy.*
John F. Henry, of Kentucky, *on Puerperal Fever.*
Herman L. Hoffman, of New-York, *on the Secale Cornutum.*
Benjamin F. Hickman, of Virginia, *on Typhus Fever.*
Abraham Hopper, of New Jersey, *on Epilepsy.*
Abraham T. Hunter, of New-York, *on the Plethora of the Aged.*
Jesse Isler, of North-Carolina, *on the Epidemic as it appeared in Tarboro', North-Carolina.*
John G. Lance, of South-Carolina, *on the Yellow Fever of Charleston.*
Thomas G. Mower, of Massachusetts, *on Gangrene.*
Jacob C. W. M'Donald, of South Carolina, *on the Yellow Fever of Charleston.*
Archibald Nicholson, of Georgia, *on Hepatitis.*
Richard B. Owen, of Tennessee, *on Hydrocephalus.*
James M. Pendleton, A. B. of New-York, *on Puerperal Fever.*

David Quackinbush, A. B. of New-York, *on Pneumonia Typhodes.*
Chauncey F. Perkins, of Ohio, *on the late Malignant Epidemic of the United States.*
William Provines, of Ireland, *on Puerperal Fever.*
Moses J. De Rosset, A. B. of North-Carolina, *on Cold Bathing.*
Thomas E. Screven, of South-Carolina, *on Anthrax.*
Elisha Sheldon, of Vermont, *on the nature of Arterial Circulation in Typhus Fever.*
John Torrey, of New-York, *on Dysentery.*
Daniel H. Trezevant, of South-Carolina, *on Cold.*
Adrian Vanderveer, A. B. of New-Jersey, *on the Diseases of the Human Ear.*
John S. Wiley, of New-York, *on the use of Setons.*
John Q. Wynkoop, of New-York, *on Epilepsy.*

OBITUARY.

Died, in the City of New-York, ARCHIBALD BRUCE, M. D. formerly physician for the lunatic asylum, aged 42.

In Philadelphia, CASPAR WISTAR, M. D. professor of anatomy, late president of the American Philosophical Society, held at Philadelphia, aged 56.

APPENDIX.

A Translation *from the Latin of the celebrated* J. Mar. Lancisi's *Work, de Noxiis Paludum Effluviis. By* Sam. L. Mitchill, m. d.

Continued from p. 212.

VIII. Here, however, a doubt arises, whether the eggs of insects are deposited in punctures made by insects through the skin, as well as their salivary fluids which do not seem to be in perfect congruity with our own? These animalcules usually pass from the surrounding air into all openings which are of a larger diameter than themselves. But the pores are smaller; they may act like wedges in prying them open, splitting, and rendering them wider, so as at length to gain themselves admission. This conjecture is rendered probable, by what we observe to happen to the more recent inhabitants of marshy situations, who, as soon as they experience their doleful dwelling place, undergo a change of complexion for the worse, and are overrun with blotches and pimples. That those living corpuscles can be received from without and carried underneath the skin, is proved by the worms (called usually *pellicelli*,) so often observed to cause the itch by contagion; and by those (if they are true,) which in Africa infest grown men, under the name of guinea-worms, and in Germania trouble boys by the term of hair-worms. In the mean time, it seems probable, that these minute creatures, disturb the bowels by their bites, as they may be prepared to pass now and then through the throat into the stomach and intestines alive; and at the same time to destroy by some mechanical means the superficial texture of their smaller parts. But this lesion is to be ascribed, not so much to the poison which taints our fluids, as to an irritating and corroding solid, as will be more fully explained when body-bred lumbrici are considered.

IX. No controversy can arise among the well-informed members of the profession, concerning the mischief which marshy insects produce, by mingling their depraved juices with the saliva, the gastric fluid, and the intestinal liquids. It has been already proved satisfactorily, that their sting was wetted, and their bowels abounded with deleterious fluids.

It therefore must happen that some of these falling into our food and drink, will be conveyed into the stomach, and there be confounded with our ferments. Every person allows that we are injured by unhealthy food. We can in no wise be benefited by aliment tainted by so many impure insects, whose excrements will further vitiate our chyle, and whose appetites will probably induce them to feed upon it. This is another of the ways by which they impair the human constitution. I have often seen the small worms in fruit, voided by boys in their stools, of a larger size than they were taken in. Whence it may be conjectured that the insects of marshes, are very injurious to the bodies of the inhabitants, both by the mixture and addition of their noxious juices, and by the subtraction of the healthy ones the bodies contain.

X. Finally, these vermin must be of no inconsiderable detriment, if they did nothing more than supply food for the *lumbrici*; after the same manner that small fishes are devoured by the greater, little brutes by the large ones, and diminutive birds by the huge and rapacious; so insects live upon those that are smaller than themselves, as we have shown in another place concerning the worms that live in water. Insects, consequently, that abound in depraved juices, will engender bad qualities in the juices of those which feed upon them. Hence, it may happen, that the *lumbria* bred within the intestines, may in pestilential cases, become fierce and rapid, not only because they are incommoded by febrile heat, but because they have eaten the noxious eggs and insects, that spring from the marshes.

XI. Where insects have plenty of aliment, there they fatten, frolick and multiply. From this principle the reason may probably be deduced, why *lumbrici* are so wonderfully propagated among the inhabitants of marshes. For they constantly employ water, food and air, teeming with great numbers of small insects. It can, therefore, be conceived wherefore their lumbrici are so prolific and fruitful. And these may be the more capable of injuring the sick, because the narrowness of their habitation, the feverish heat, and the acrimony of the juices, may render them uneasy, and incline them from fighting one another, to turn their attacks against the sides of the intestines. To fully understand all which, those symptoms ought to be considered, which practitioners deduce from worms; to wit, violent fever, pains in the chest, spurious pleurisies, convulsions, and deliriums.

XII. Hippocrates relates a case so much in point, that it would be improper to pass it by. *A man*, says he, *was sick*

with his wife; he had something furious within him; afterwards on voiding a lumbrical worm of considerable size, he immediately became composed and fell asleep. The patient, however, died, because the mischiefs induced as well by the worm as by the bad state of the humours, was such, that the like evil befel him that commonly happens to those who are wounded; for although the sword is withdrawn from their bowels, the wound continues and kills them.

XIII. To enable the cultivators of medicine to understand the theory of the diseases arising from worms gnawing the guts, it is worth the while to copy an intire paragraph from my late invaluable friend, the famous Lawrence Bellini's book on fevers: *Very little disease is caused by the first production of a worm; nor is there any fault in the blood or other humours. But in a short time the worm begins to move, to feed and make discharges. We are taught by anatomy that worms perform all these functions. They are furnished with their own proper intestines, mouth, fæces, and anus. They, therefore, feed upon something that the chyle contains, by which they probably vitiate it. The excrements of the worms are mingled with the chyle, by which it is probably tainted the sooner.* They also *wound the membranes by biting, or excite in them spasmodic action by gliding or creeping along them, or by sticking to them. From this simple sensation, there may be a perversion of the whole body. And first, a thousand agitations of the spirits of the most irregular and anomalous forms, excited by the sense of pain. From these proceed delirium; morbid imagination; diseased memory from irregular motions of the spirits flying impetuously every way; convulsions and convulsive motions; fainting, deprivation of sight, and hearing, watching, gnashing of the teeth; constriction of the lips, vomiting and crying without cause from a more violent flow of the spirits to the muscles of the voice. Hence, also, proceed anger, vexation, and unsteadiness, either of a moderate or vehement degree, as the relux of the spirits is gentle or impetuous.* And the further remarks of this excellent author are worthy of being perused by the wisest.

XIV. Much more serious will be the evil induced by Lumbrici, when they not only offend by irritating and biting, but, also, by effusing and mingling their depraved humours with our juices; which is a frequent occurrence in pestilential fevers, caused by marshy exhalations.

CHAPTER XIX.

Inquiry whether among the animated effluvia of marshes, some of them are so much smaller than others as to enter the blood vessels, and be mischievously propagated there; and into the difference between the true plague and pestilental distempers.

I. I know there are very learned men, such as Kircher, Langius, Mangetus and Valisneri, who believe the cause both of the plague and of pestilential diseases, to be a congeries of exceedingly minute worms. These, they suppose, are revelling in the blood as it flows through the organs in all directions; are endowed with a peculiar bulk, shape and quality, enabling them to penetrate the vessels for the purpose of breeding within them; and are the minister's of God's just wrath, in making desolation here and there upon earth. I would not deny, indeed, that this hypothesis may be true as far as the true plague is concerned. This is propagated by touch alone, or the near approach of porous bodies, which may be infested with such vermin, even in a healthy climate, and under a proper dietical regimen. And such cases may happen, without any general cause, as vipers attack and kill men and other animals. Under like circumstances, it appears highly probable that the pestilential distempers which are accustomed to rage epidemically in particular districts of a country, in consequence of some cause generally operative there, and particularly, an atmosphere envenomed by the marshes, are chiefly caused by noxious exhalations and organic exhalations, and not by worms nestling in the blood. For the latter penetrate into the blood, and even reach the nerves; while the former get no further than the nostrils, throat, lungs, stomach and intestines.

II. According to my judgment, the main difference between the genuine plague and a pestilential or camp fever, consists in this, that the plague is excited by most virulent worms; which being brought from distant regions, without any general predominating cause, or any deterioration whatever of the atmosphere in the place where that malady breaks out, are moved from one porous or villous substance to another, until they, at length, alight upon that kind of animal whose blood and juices please and nourish them best.

But pestilential epidemics proceed from a common vitiating principle, inhering in the air, food or drink, or in all of them, which operate gradually by tainting the fluids of the

first passages. And if there is any thing verminous in the case, (and this is ever the fact in marshy situations, as has before been shown,) the stomach and intestines are, of course, the perpetual seats of their ravages. Wherefore, the pestilential fevers arising from marshy effluvia, which are the subjects of the present treatise, are steadily accompanied by lumbrici, and almost always assume from their commencement the type of Tertians. The reason of which seems to be that the ill-conditioned ferments of the hypochondria with the deteriorated chyle, which is their natural offspring, flow into the vessels every third day. Hence is deduced a most luminous reason why in the genuine plague those remedies are almost useless, which are employed to purify the air; for these, if they do any thing, (and very trifling indeed it must be,) effect it, by lessening the susceptibility of the bodies of the inhabitants to the plague. While the most useful course for the people to pursue, is to interdict all external means of catching the contagion. But in a pestilential fever, proceeding from a fault in the air, those expedients are generally serviceable, which either correct the contaminations of the air, or intercept its course.

III. I should, after all, act more like a prophet than a philosopher, if without the evidence of experiments, I should dare to affirm, that in camp fever, also, as well as in the plague, worms penetrated and ascended into the blood-vessels. To ascertain this, patients labouring under these fevers ought to be bled, out of the marshy air. But medical considerations seldom suffer this to be done. The blood should then be examined by the microscope, to discover whether there are any animalcules in it. And this it has never been my lot to perform. Still, although worms should be detected in fresh-drawn blood, a doubt would arise whether they were to be considered the cause of diseases; or rather as the effects of the dissolved constitution of the fluids. And it might so happen that the very minute eggs heretefore rolled up amidst the particles of blood, are set at liberty, or brought to view by the external air. I can, therefore, offer nothing from actual observation concerning these pestilential animalcules in the blood. But yet, while I make this confession of my ignorance, I ought, at the same time, candidly to avow that neither in abscesses appearing naturally, or by the aid of art, on the living bodies of the sick who are brought in great numbers from the neighbouring marshes to Rome, nor in the examination of dead bodies, did I ever find worms or insects within any of the bowels, except in the stomach and intes-

tines, where, as has been before observed, those creatures find more room, greater quiet, and better food. It is true, indeed, that through God's blessing I was never called to administer for the plague; and on this account, I wholly refrain from giving any decided opinion on the pestiferous vermin of the blood, as the subject is one of which I am wholly ignorant.

CHAPTER XX.

A View of those things which have heretofore been urged in detached sentences, or which remain yet to be explained, on the bad effects of both kinds of effluvia, and the means by which they induce camp fevers.

I. Although in our 15th and 18th chapters were separate discussions on the manner by which inorganic as well as organic effluvia, were detrimental to the people who dwelt near marshes, it appears still proper to treat of them jointly. This is the more important, as in the production of camp fevers they do not act separately and apart, but together and in concert. Naked beasts, and those which are loaded with insects, produce their mischievous effects at once upon our bodies. And no physician who practises in those diseases will be able to disjoin, nor ought he to do so if he could, the different natures of the causes, and the different ideas of the symptoms excited.

II. But that we may understand this two-fold agent of disease, we must repeat after the physiologists, that the life and health of man is nothing else than a perpetual and easy ebb and flow of air, blood, and the nervous fluid, each through their proper vessels and appropriate organs; those latter retaining their entire constitution, and alternately acting and reacting. This has been expressed by the great Hippocrates in a few but discreet words, wherein he has given us three things in these as worthy of contemplation, to wit, *the containing, the contained, and those which are moved by force.*

III. Moreover, for the constitution and preservation of the life of animals, and more especially that of man, there are several requisites: 1. the presence of those bodies which impress and communicate motion 2. of many bodies that receive and retain it when communicated; 3. of several bodies which resist the impressed motion, and by moderating it, give it a direction every way. This is, however, to be

understood, that there must be among them such a correspondence and subserviency, that each shall possess a certain bulk, figure and consistency, as well as a certain mediocrity and measure of vigour. An illustration may be taken from a clock, in which the power of the weight and elasticity which impresses the motion ought not too much to exceed, nor fall short of, the resistance of the wheels and the flyer; but ought to be so tempered by the equipoise of resistances, that neither shall gain in any considerable degree the ascendency over the other. Hence, the wheels and all the machinery to the index (provided the whole is duly constructed) are equally moved through their graduated spaces, and the life of the clock, as one may say, is preserved entire.

IV. Now, the first moving powers in our bodies are particles of air and ether, which pressing the vesicles of the lungs from without, and the membranes of the brain from within, stimulate their contained fluids into action, and mingling gradually with them, impart to them fluidity and elasticity. By this means the coats, fibres, and muscles, are distended so as to acquire tonic strength; and this being increased according to the various textures of the muscular parts, they, on their part, restore and return to the air and the circulating fluids, the motion they received.

V. In the circumambient air, there are three of its relations to the present argument, which are to be particularly considered: its weight, elasticity and consistency. All these are liable to variation from the varying composition and mixture of extraneous particles. Every philosopher will, therefore, understand, that marshy effluvia first affect the weight of the atmosphere, because the particles of water are heavier than those of air. The evidence of the senses, as well as of the barometer, teaches us that respiration is heavier in the vicinity of marshes. Again; the interposition of the same watery particles which are incompressible, diminishes the elasticity of the air: for they re-act upon the contiguous and springing particles of air, and by that means enervate and deaden them. Besides, the composition and consistence of the air is impaired, in consequence of the thickness it derives from the multitude of organic and inorganic substances with which it is contaminated.

VI. Suppose the body of a man, well organized as to his solids and fluids, is brought into a marshy region, in the course of the summer or autumn, and passed but a day there—who does not see that on account of the diminished elasticity in that air, that the fluids and solids of the new comer will be

relaxed, and fail exceedingly in their motions? Who does not know, that by reason of the increased weight in the marshy atmosphere, and its additional thickness, the pores of the skin, mouth, lungs, and other surfaces, which are in contact with it, are compressed, obstructed, and rendered incapable of a free transpiration? Who does not perceive that the passages, cavities and almost all the vessels, are befouled from the medley of noxious particles admitted with the air? The new comer, therefore, must suffer a failure of the intestine motion of his fluids; their fluidity must be diminished; their temperature changed; their constitution altered; at the same time, the pores of the skin must be blocked up, the energy of the circulatory organs must be impaired, and, in one word, the whole constitution totters, and falls into that most dreadful disease, which is called the malignant, camp, or pestilential fever. For the more volatile part of the blood, which naturally ought to be sweet, of an oily balsamic quality, of the greatest smoothness, and not only to be reckoned the companion, but (where the structure of the solids corresponds,) even the author of life, becomes acrid, pungent and eroding; whence arise irritations in every part, and according to the different use and functions of the parts, are different symptoms provoked. In a special manner, this irritated state of the blood induces a preternatural fermentation, which is aided by the particles that ought to pass off by perspiration, but which the impermeable skin now refuses to transmit; and by those corpuscules, which being wholly extraneous to air and food, and hostile to them, are, nevertheless, absorbed into the vessels with the chyle, lymph, gall, and other already irritated juices of the hypochondria.

VII. Nor shall I in the meantime note the symptoms which arise from tainted irritating fluids, intercepted here and there, sometimes effused, and sometimes coagulated. To this source may be referred roughness and blackness of the tongue and throat; pimples on the skin, nausea and vomiting; looseness and tension of the belly; twitchings, convulsive motions, and stiffness in the limbs; anxiety in the præcordia; all the phenomena of the pulse, and of breathing; delirium and drowsiness; paratids, and a multitude of other symptoms, which will be detailed when we treat at large on these fevers. At present we beg our readers to look back once more to our 18th chapter, and to note carefully its contents; how the insects of the marshes conveyed in food, drink, and air, are mischievous in many ways, and more especially how, by promoting the numbers and fierceness of the inbred lumbrici,

wounds are inflicted upon the intestines themselves. And these wounds besmeared with poisonous juices, terminate in dysentery, gangrene and death; as will more fully appear from the history of the Roman epidemic.

CHAPTER XXI.

Wherefore, it happens, that they who sleep during the night, near the marshes, are more injured than they who keep awake.

I. I presume no person, however long he may have turned his attention to medicine, will doubt the correctness of this. The Roman hospitals through the summer and autumn are filled by the miserable sick from the surrounding country. And throughout the city of Rome we often lament the heedlesness of hunters and travellers, who, though they have lived but a short time in marshy places, have been seized with malignant fevers, because they have taken a nap of sleep near the pond. Severinus also observes, that this accident is most likely to befal those who sleep. In his account of the death of that excellent youth Martin Brendell, he writes to Michael Rupert Besler in the following words: *He was to blame, skilled as he was in physic, and in the dangers of travelling, for having voluntarily exposed himself to the inclemency of the air, and to the morbid influence of the contagion; and what is more, he increased the hazard of his exposure by staying all night and respiring the suspicious air of the Roman marshes, which have destroyed a great many others by inducing acute diseases.*

On this danger, John Baptist Donius gives serious advice to those who quit Rome, in quest of more healthy residences; for he cautions them against stopping during their journey in low and noxious situations, and particularly against *sleeping*. And he adds, from this cause I presume it is, that so many people perish in travelling during the summer from Rome to Florence; and so many more from Rome to Naples.

III. Here a favourable opportunity presents, of advising those who visit marshy regions at suspicious seasons, to abstain most carefully from rest and sleep in those situations. And to this they ought to attend with solicitude, inasmuch as the marshy air, (since it is more gross, and induces a lentor of the blood,) is accustomed to lull the lively and active spirits, and compose them to sleep. William Riva, formerly

my instructor in anatomy, and at this time a famous practiser in surgery, first gave public notice of this. This person had often travelled through the Roman territory, and had uniformly resisted all temptations to sleep. At length, after having been exercised in hunting on a certain day during the autumn of 1676, he sat himself down at the root of a tree near the filthy earth, and there incautiously slumbered a while. The consequence was, that returning almost immediately to the city, he was seized with a fever which terminated his life before the seventh day.

III. Yet it sometimes happens, that fevers are provoked, and life endangered among those who do not sleep near the marshes; and this *in* a way that contradicts the vulgar opinion, that ascribes the whole mischief of noxious air to sleep. For if a person passes a considerable time in those places, using the waters, fruits and herbs therein produced, and imprudently indulges in intemperate drinking and venery, especially if he before was in a bad habit of body, he is invaded by this aërial torment, although he neither yawned nor slept. Even tarrying there, and bad diet, augment the influence of the pestilential air; while ill health, and idleness joined to vices, so far impair the strength as to render it less capable of making resistance even during the time of wakefulness.

IV. The reason why they who sleep in filthy and boggy places are sooner injured by the air, is partly, that the body is more prone to imbibe the matter of mischief while asleep, and partly that the exhalations themselves are more deleterious during the night. As to those who sleep, it is certain, that the blood moves more slowly, as the muscles of the præcordia alone are in action; and those of the limbs cease to bestow that pressure which, in persons awake, accelerates the return of the circulating mass to the vena cava. This appears to have been understood by Hippocrates, where he treats of the qualities of the blood in regard to prudence: for, says he, *when sleep occupies the body, the blood grows cold;* for naturally sleep is of a cooling, (that is, of a motion lessening) quality. And when the blood is chilled, its courses are more languid. From this languor it happens, that while the malignant effluvia assails on all sides, the passages for their admission are the more open, and the propelling power is impaired.

VI. The effluvia are unquestionably more pernicious after sunset. Whatever had been attenuated and elevated by the influence of the sun becomes more heavy by concretion after he is withdrawn, falls again to the earth, and attacks

those who sleep with the greater detriment. For the atmosphere, on the approach of evening, as the sun disappears, is deprived of his celestial fire and light; and then the various particles which had been minutely subdivided, and rendered movable by combination with ether in the higher regions, begin to be condensed and brought into a state of coherence. Whence being aggregated into watery drops, they lay aside their aëriform constitution, and are turned into mist, dew, and tangible moisture, and descend once more upon that part of the terraqueous globe from which they had been derived by the sun. By this means they alight upon the bodies of sleepers, which inhale them in greater quantities, and at a more destructive rate. This, however, is so plain to common sense, that there is no need of a single additional remark upon it.

VI. But the marshy air during the night is not hurtful to sleepers only: it is injurious to those who travel through those dreary tracts, even if they keep awake. I, therefore, address all who are travelling from Naples to Rome, or from Rome to Naples, rather to endure the heats of the day, than, deceived by the pleasantness of a cool evening, to expose themselves to the ruinous influence of the ambient atmosphere, provided the scorching rays of the noon-day sun or summer are guarded against; and if there is a necessity of pushing on, by using the shade of umbrellas, which may be sometimes dipped in water to have a more cooling and moderate operation. This is reported to have been practised in the most happy manner by wise and skilful men.

END OF THE FIRST PART OF THE FIRST BOOK.